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The Canerio chart from a photograph made by the French Government

MARINE WORLD CHART

OF

NICOLO DE CANERIO JANUENSIS

1502

(CIRCA)

A CRITICAL STUDY

WITH FACSIMILE

BY

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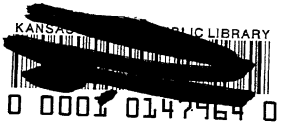

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FOREWORD

IN the issue of this series of maps, selected for their great value in the study of early maritime discovery and exploration, especially in the New World, a chronological order has not been followed.

The large World Map of Jodocus Hondius, the first of the series, sets forth in a masterful way the scope of geographical knowledge possessed at the beginning of the seventeenth century; the second of the series, Nicolo de Canerio's great Marine Chart, exhibits the extent of that knowledge in the first years of the sixteenth century.

In comparing the historical and the scientific value of documents, superior importance is not always found to attach to the one of greatest antiquity. With reference to Canerio's chart, however, it may here be said that it is one of the oldest known on which any part of the New World is represented, one of the first to break with Ptolemaic traditions in the outline of the far East, one of the first on which a group or system of wind- or compass-roses appears, perhaps the oldest known marine chart on which degrees of latitude are indicated, and it is fitting also to refer to the fact that the chart itself or its prototype is unequaled in the influence exerted on the cartography of the New World in the first quarter of the sixteenth century.

In Professor Gallois's paper, *Une nouvelle Carte ma-*

rine du XVI^me^ siècle, le Portolan de Nicolas de Canerio, Lyon, 1890, appears the first extended notice of the chart. This interesting document, says Professor Gallois, was found in the *Archives du Service Hydrographique de la Marine,* Paris, where it remains one of the choicest map treasures of that Department, which is rich in cartographical material relating to America.

Exactly when, where, and for whom the map was drawn we do not know. Our knowledge of its earlier history is largely conjectural. It appears that it was placed in the Archives of the French Department of State about 1669, more than a decade before Colbert ordered that papers relating to French marine affairs should be collected and placed under the charge of a custodian.

It is drawn on coarse parchment which is yellow with age, and which is much crinkled, due in large part to the fact that it is made up of several sheets joined together, and that during the greater part of its history it has not had proper care. It measures 225 by 115 cm., including its border, which on three sides is of an ornamental design.

Canerio worked out his chart with great industry and artistic skill, sketching with the hand of a master draughtsman, adding colors, green, blue, red, and gold, to which colors time has given a richness of tone. There is scarcely a line that has disappeared or an inscription that is not still legible, though the edge of the parchment in some instances has been considerably frayed, and in some places it has been repaired.

To reproduce the document by photography did not at first seem possible, because of its condition; to have an accurate tracing made was found to be too expensive. In the hands of an expert workman, however, the results at length achieved were of superior excellence, and a repro-

duction is here presented in which every detail of the original is as faithfully given as photographic art renders possible.

Accompanying Professor Gallois's paper is an outline sketch of the New World and of Africa as Canerio presents them. Dr. Gabriel Marcel in his *Reproductions de Cartes et de Globes, relatives à la Découverte de l'Amérique,* Paris 1893, reproduces the New World section on a scale near that of our key map. Henry Harrisse in his *Discovery of North America* gives the north continental area in a somewhat reduced size. Some years since the French Government had a few photographic copies of the chart printed. Ravenstein in his edition of the *Journal of the First Voyage of Vasco da Gama* reproduces on a greatly reduced scale the east African and the Indian portions of the chart, but with omissions. In the reproduction here offered, in ten large folio sheets with key map, the first attempt has been made to prepare a critical edition in size of the original, an edition which is made easily available for students of that early period of history so full of interest.

The attempt has not been made to direct attention in this text to every detail of the chart. To the New World portion a more careful consideration has been given than to the Old World. Europe in that day, offering but little opportunity for new discoveries, save in the extreme north, is passed over with a word. Enough of detail has been given relating to the African coast, so rich in geographical names, to show how important a document is Canerio's chart for students of early Portuguese exploration, to show how step by step the Portuguese followed the coast of Africa in their search for new lands and a waterway to the Indies. India, so far as Canerio has described it, is given

consideration. A complete list of names and legends appearing in the regions considered is likewise given, also comparative tables of names in the New World, and of names on the coast of Africa from "Sera" to "Cabo dangra," which indicate the sources and the influence of the chart.

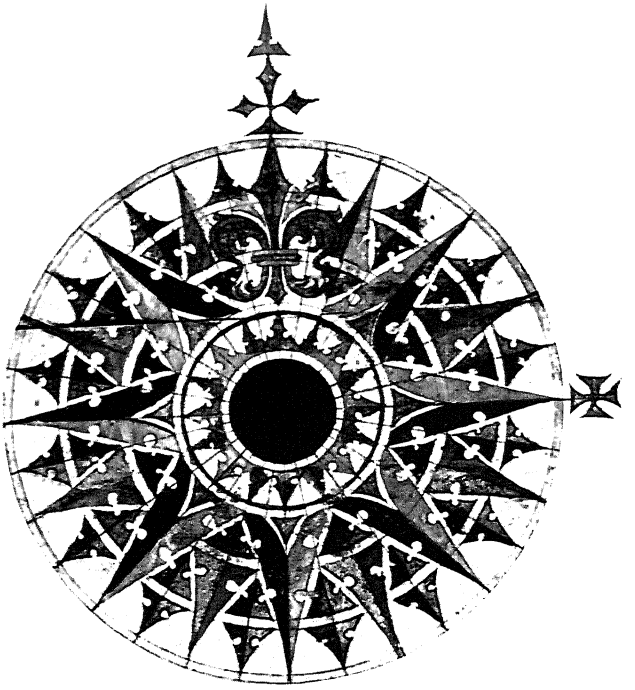
To M. Hanusse, Director of the *Archives du Service Hydrographique* for his courtesies, to the officials of the French Government who so kindly permitted this reproduction, and to Mr. Henry Vignaud, First Secretary of the American Embassy in Paris, an invaluable friend and counselor to students who have occasion to do research work in the French capital, whose kindly interest in this reproduction was so graciously expressed, the sincere thanks of the author are here recorded.

EDWARD L. STEVENSON.

RUTGERS COLLEGE, October 18, 1907.

MARINE WORLD CHART OF NICOLO DE CANERIO JANUENSIS

II



Compass rose

THE MARINE WORLD CHART OF CANERIO

NEITHER title nor date of execution appears on this marine chart which represents, in particular, the coast regions of the world as they were known at the beginning of the sixteenth century. As there is no original entry of a discovery after 1502, that date is given as approximately correct.

In the lower corner on the left of the reader is the inscription, "*Opus Nicolay de Canerio Januensis.*" Little is known of Canerio save that which we are able to gather from his chart. He calls himself a Genoese, and to his pride in this fact he seems to have given expression several times on his map. The Antilles, as he says in a legend, were discovered "por collonbo ienoeize"; he distinguishes the island of Lanzarote in the Canaries with the Genoese cross, as if to emphasize the enterprise of his countryman Lancelot Malocello at the close of the thirteenth century; Genoa itself is distinguished by an elaborate building over which flies the Genoese flag; and in Africa he appears to magnify the importance of a kingdom which he calls "Regnum Musameli de Ginoia," by placing over the king's castle a Genoese flag.[1] It seems probable that he was one

[1] This flag may have been inserted to direct special attention to this kingdom of Musameli or to call attention to what appears to be a truth, that Genoese navigators had early been along this coast, or, as has been suggested, it may have been inserted by a Genoese possessor of the chart.

of a number of Italians who found employment as map-makers in Portugal or in Spain in those early years of great trans-oceanic discoveries. One would scarcely infer that he was a trained geographer, rather that he was a skillful draughtsman, an expert miniaturist, a copyist who did his work somewhat mechanically, often ignorant of that which he was transcribing.

We are left to conjecture whether this excellent specimen of early cartography was produced in Portugal, the country whose language in the main is employed,[1] or in Italy, the native country of its author,[2] and whether it was executed on specific order, as was the Cantino chart, or is one of those maps, of which there were many, drawn by official cartographers in that day, and also perhaps by enterprising unofficial but expert map-makers, which maps could be purchased in the principal seaports of Spain and Portugal.

[1] Although Canerio employed in the main the Portuguese language, he occasionally reverts to his native tongue, to the Spanish and to the Latin. Like most of the contemporary cartographers he was not consistent in his spelling, which fact may have been due to carelessness, to the difficulty in deciphering the original from which he gathered his information, or to an imperfect knowledge of the Portuguese and the Spanish languages, hence a failure to understand the meaning of the names he found on the charts or in the written documents which he copied. He writes "Baia de tuti li Santi" instead of "Baia de todos santos." In general he writes the word "de" for the Portuguese "do," as "C. de Monte" where Cantino writes "C. do Monte." Sometimes he makes use of the form "insulla," occasionally "ilha." Variations and peculiarities in spelling are exceedingly numerous. In reading Canerio's names and legends one can appreciate the attitude of Chytraeus, in his attempt to translate the careless, ungrammatical Latin of the legends on the Cabot map, who felt inclined to apologize for the language, and excuse himself for the trouble because of the importance of the matter.

[2] Gallois (l. c.) thinks the chart must have been made in Italy: "Il me paraît impossible que cette carte ait été dessinée en Portugal. Presque toute la nomenclature, il est vrai, en est portugaise. . . . Ce portulan a dû être dessiné en Italie, et très probablement à Gênes, d'après un de ces modèles venus du Portugal, auxquels les Italiens attachaient alors tant de prix." Harrisse is of the opinion that it "was constructed by a Genoese cartographer, most probably in Portugal; as, if he had executed his work in Italy, there would have been no reason

That he made use chiefly of a Portuguese chart or of Portuguese charts in its construction, on which there had also been recorded Spanish discoveries as they were then known, is certain.

It belongs to that type of maps often called *portolani,*[1] maps in which the nomenclature is very largely limited to the coast regions. Rivers and mountains are not generally represented on such charts, especially on those we know of the fourteenth and early fifteenth centuries.[2] It appears that they were first constructed for the Mediterranean and its border lands, and that they were the outcome of practical seamanship, being intended to serve the mariner in guiding him from port to port. In time, after the beginning of Atlantic exploration, the portolano of the Mediterranean developed into a world map, still retaining most of the features of the earlier examples; such a world chart is Canerio's.[3] "Loxodrome" or "compass charts" they have likewise been called, on which rhumb lines are

for inscribing the legends in the Portuguese language, and he would have translated them into Latin." *Discovery of North America,* p. 428.

[1] Note in particular the admirable discussion concerning *portolani* in Nordenskiöld: *Periplus, an Essay on the early History of Charts and Sailing-Direction,* Stockholm, 1897; particularly Chapters IV–VIII, treating of their character, standard of measurement, legends, sources, wind-roses, calendar diagrams, etc.

[2] Canerio has introduced a few landscapes into his chart. Mountains stretch along the entire continental coasts of the New World, and the parrot which interested so greatly the early discoverers, appears conspicuous in the Brazilian region. In the desert region of Africa appears his most conspicuous landscape, and in south Africa he has indicated the "Mons Lune," although he does not represent these mountains as the source of the Nile River, which river is indeed omitted altogether. A lion appears in the Sierra Leone region, a giraffe somewhat farther east, and in south Africa a Mohammedan trader with his elephant bearing a burden of merchandise. In "TARTARIA" we find the "Magnus Tartarus" seated in his royal tent.

[3] *Vide* fig. III, in which the oldest known portolano of about 1300, is given in greatly reduced scale, also the very remarkable Catalan portolano of about 1450, to be found in the Royal Estense Library of Modena, Italy. In this second portolano the attempt has been made to represent the whole world, known and unknown. *Vide* fig. IV.

numerous, generally proceeding from a number of crossing-points which have been distributed with some regularity over the chart. These lines were doubtless also intended to represent the directions of the winds,[1] as the ornamental figures, wind-roses, often sketched at the crossing points clearly indicate. The ornamental figures have also been called compass-roses, it being implied that they owe their origin to the use of the compass, and that they were intended to represent the points of the compass as these points were drawn on the compass cards.[2] Though wanting scientific accuracy, such charts, as we know, were of great practical value for seamen in that early day of ocean navigation.

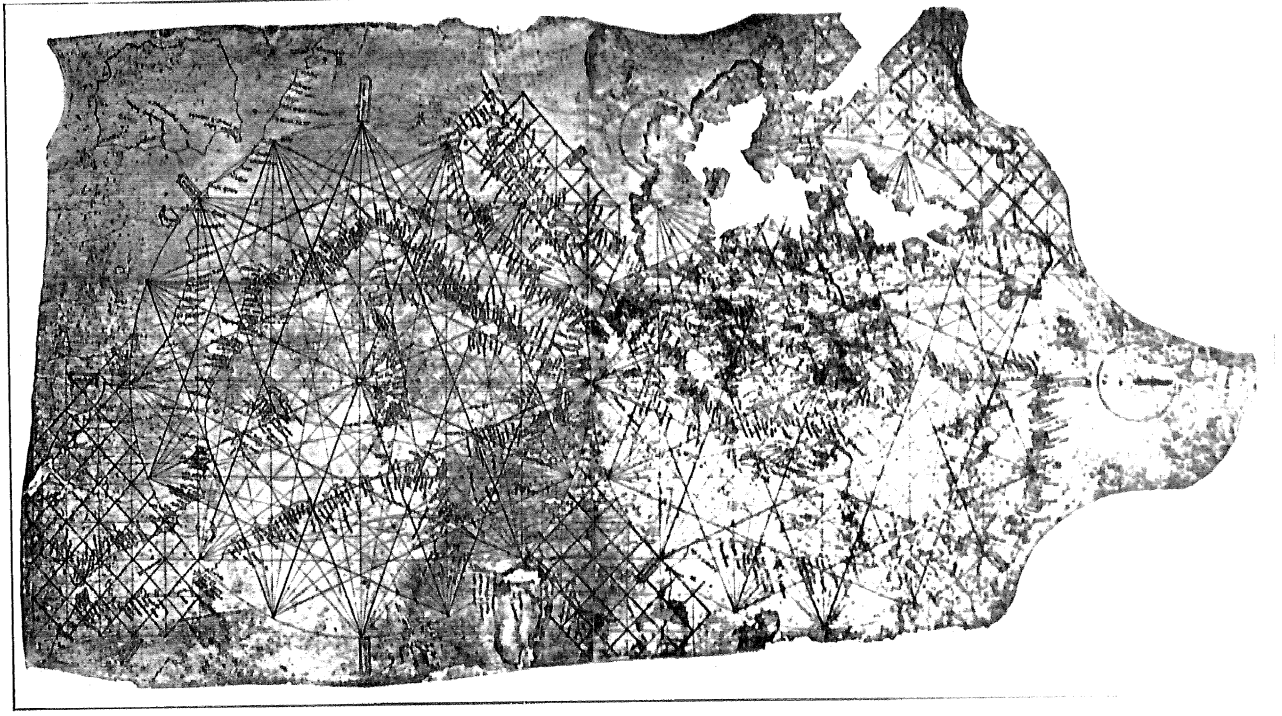
In making use of them for the determination of his course, the navigator would apply the compass to his chart, note the angle formed between the north as indicated by the magnetic needle and the direction in which he desired to sail, and with the resulting determination would proceed toward his destination, further guided by the lines laid down on his chart.

This marine chart is one of the oldest known on which wind- or compass-roses appear.[3] These roses Canerio has

[1] In the ancient day direction was usually indicated by employing the name of the wind blowing from each particular quarter of the heavens. The idea was not forgotten in the middle ages, and in the period of great maritime explorations was revived and employed with some confusion. Direction came gradually to be expressed in terms of the points of the compass, but we find the wind-heads, that is, the winds, very frequently represented on charts of the fifteenth, sixteenth, and seventeenth centuries. Vespucci uses the term "maestral" in speaking of the northwest, and we still make use of the terms "Zephyr" and "Boreas" for the west and the north, though their use is rather poetic.

[2] Compass-roses usually have an orientation to the sidereal north clearly indicated, the point turned in that direction being usually extended into a figure somewhat elaborately sketched. *Vide* fig. II.

[3] Nordenskiöld observes that the oldest known portolano on which a compass-rose appears is the Catalan of 1375, there being, however, but one represented, and he further notes that but two other portolani are known



The Pisan portolano, circa 1300

arranged in a regular system, such as became common in the sixteenth century, but in which arrangement no two manuscript maps are found which exactly agree. In a circle about his central figure, which appears in the heart of Africa,[1] he has indicated sixteen prominent crossing-points for his network of lines, at thirteen of which we find artistically constructed roses, each with sixteen points, but at three of these points the completed roses are wanting. His scheme, had he followed a symmetrical construction, would call for thirty-two radiating lines, but in no instance is the number complete save in the case of the lines radiating from the large central figure. On the right of the map appear three roses arranged as if part of a larger circle, and on the left three similar crossing-points, at two of which the roses are sketched, but at the third or central crossing we find a crescent-like figure, which erroneously has been thought to indicate a Mohammedan flag and a belief that the region on or near which it is placed was a part of Asia, hence a Mohammedan country.

At seven places on his chart he has sketched a ribbon-like scale of distances such as is common on maps of this type, divided into fifths and tenths.[2] Coast names are very numerous, most of which appear in black, many in red,[3]

prior to 1502 on which the compass-rose is indicated, in each instance but one rose. A marked feature of the Canerio chart is the grouping of the roses.

[1] This figure is a representation of the system of the world. In the center is a world chart, rather conventional in character. About this in concentric circles the seven heavens are given, the region of the stars, and encircling all the signs of the zodiac. It is interesting to compare this figure with those of similar character found on the chart of Fra Mauro, of Bianco, of Leardus.

[2] *Vide* Nordenskiöld: *Periplus*, pp. 19–24, for an interesting consideration of scales of distances and the portolano mile.

[3] "The places marked by red are, with only occasional exceptions, invariably the same on all portolanos from the beginning of the fourteenth to the end of the sixteenth century. In the first place the more important ports have been honored with the red distinction, but this has been done in

likewise a common portolan characteristic. It is also interesting to note that in his color scheme he has given the Red Sea its traditional reddish tone.

In the interior regions comparatively few names are given, chiefly such as are employed to designate particular countries or kingdoms. Among these, in the Old World, there being more than forty, we find such names as "HISPANIA," "FRANCIA," "GERMANIA," "TARTARIA," "ARMENIA," "ARABIA," "INDIA EXGANGEM," "INDIA SUPERIOR," "CATTAIO," "EGIPTUS," "EPTIOPIA," "REGUM MURFULI," "REGNUM NUBIE," "REGNUM MUSAMELI DE GINOIA," and the names of such cities as "irusalem," "mecha," and the "turis babilonia," with elaborately sketched buildings to emphasize the importance of each.

Along the border of the chart on the left Canerio has indicated, perhaps for the first time on a marine chart, degrees of latitude which extend from 56° south to 71° north latitude.[1]

Employing his measure of a degree of latitude, we find he has represented about 250 degrees of longitude, the eastern coast of Asia terminating abruptly at the north, and the full extent of the western continent beyond the Atlantic coast-line being indicated as yet unknown.[2] His Africa

a very arbitrary manner, so at least it appears to us. Often it is not so much the size of a place as its suitability for a port of call, for provisioning or for taking in water, that seems to have determined the color by which it has been marked on the portolano. Perhaps too, the author of the normal-portolano marked with red such ports as were indicated on the special maps which served as the basis of his work." Nordenskiöld: *Periplus*, p. 18.

[1] It has been thought by some that the King chart is the oldest known on which degrees of latitude are indicated, but like the Canerio chart it also is without indicated date, and this can not be absolutely determined from internal evidence. It is probably of the same date as Canerio's chart.

[2] He has not indicated degrees of longitude. The *Carta Marina* of Waldseemüller, which appears to be a copy of Canerio's chart, omits that part of the world lying between 152° and 280°, indicating therefore that the part of the world which has been sketched covers 232°.

and his Mediterranean coast lands are drawn with a remarkable approach to accuracy.[1] It is, however, in his representation of the newly discovered lands of the West, of the African coast, and of the old though imperfectly known lands of the far East that the chief interest in Canerio's chart is found.

[1] For the region of the Mediterranean lands there is a striking contrast between the *portolani* drawn by practical seamen and the mediaeval maps drawn in the seclusion of the cloister cell. In comparison with the Ptolemaic maps for the same region, it is also to be observed that the *portolani* were drawn with a much nearer approach to accuracy. Compare the Ptolemaic India with Canerio's India. Fig. v.

GREENLAND

ON the northern border Canerio has drawn an extensive region projecting westward as a peninsula of Europe, which, without doubt, is intended as a representation of Greenland. In its construction our cartographer followed an early tradition, doubtless having before him a chart of that northern region such as may be found in the Zamoiski Codex, in the Laurentian Codex, or in the Vatican Codices, to which Fischer has called attention.[1] In the years after Eric the Red brought back word of the "green land" he had visited in the West, descriptions of this land varied. Sometimes it was referred to in the written record as an island, sometimes as a peninsula; and this uncertainty concerning the character of the country appears also in the maps we possess of that northland, though none of these maps antedate the fifteenth century.

An early Icelandic geographer[2] tells us that "From Bjarmaland the land reaches out toward the north to the uninhabited desert until Greenland commences," and he continues: "from Greenland toward the south lie Hellu-

[1] Fischer: *The Discoveries of the Northmen,* London, 1903, Chap. v and plates I–VIII. Also Nordenskiöld, *Periplus,* pp. 86–91, and his reproductions in the same work of the maps of the northern regions.

[2] *Grönlands historiske Mindesmaerker. Udgivne af det Kongelige Nordiske Oldskrift-Selskab.* (Ed. by Finn Magnusen and C. C. Rafn.) 3 Vols. Brünnich, Kjøbenhavn, 1838–1845. Vol. III, 221.

IV

Catalan world map of the portolano type, circa 1450

land, Markland, and not far from this Vineland, which, as some think, stretches out toward Africa." [1]

The author of the *History of Norway* concludes his account of Greenland by stating that " it forms the boundary of Europe in the west and extends almost to the islands around Africa." [2]

The references are indeed numerous which indicate a belief in a land connection, between Europe and Greenland, such as Canerio represents.

On numerous early maps we also find an Ille(a) Verde represented, never approaching in its proportions the true Greenland, but Storm identifies the island as Greenland, believing it owes its origin on the charts to the influence exerted by some of the early writers who had more or less to say about the Green Island which Eric found.[3] On Canerio's chart the name nowhere appears, but we find the island "obrassill" not far to the west of the coast of Ireland, which Storm interprets as the ancient Markland, or Woodland, and he notes further in this connection that the word Brazil (variously spelled) was frequently used in Spanish maps as a term for a thickly wooded island.[4] To the extensive peninsula no name has been given by Canerio, but at its southern extremity, in

[1] In a chart by Laurentius Frisius, little known, being a reproduction of Waldseemüller's *Carta Marina* of 1516, the north continental area of the New World is called Terra de Cuba partis Affrice, the only instance of its kind so far as I know. One section of this chart is here reproduced as fig. xiv.

[2] Storm: *Hist. Norweg.*, p. 75.

[3] Storm: *Columbus på Island og vore forfaedres opdagelser i det nordvestlinge Atlanderhav.* (*Norske geogr. Selskabs Aarbog,* IV.) Kristiania, 1893. pp. 80 *et seq.*

[4] Storm, l. c., p. 81. See also Scaife: *America: Its Geographical History,* Baltimore, 1892, Lecture 5. The name first appears on maps of the fourteenth century. In the *Atlante Mediceo* of 1351 we find the name, I. de brazi; Soliri, 1385, gives insula da brazir; Combitis' portolano of the first part of the fifteenth century gives y da brazil; Bianco, 1436, gives y: a de brasil; Canerio writes "obrassill," and, on the north coast of the south continental area in the New World, "y: brasil."

latitude 58°, a Portuguese flag conspicuously appears. On the Cantino chart, which throughout presents so many striking features in common with the chart of Canerio, this promontory bears the legend, "a ponta d," doubtless intended for: a ponta d' asia, and on the mainland of Europe directly eastward we read "Parte de assia."

To the right of the promontory on the Cantino chart is the inscription, "Esta terra he descober per mandado do muy escelentissimo p̄ncipe dom manuel Rey de portugall aquall se cree ser esta a ponta dasia. E os que a descobriram nam chegarō a terra mais vironla ꝛ nam viram senam serras muyto espessas polla quall segum a opinjom dos cosmofireos se cree ser a ponta dasia"[1]: "This land, which was discovered by order of the Most Excellent Prince Dom Manuel, King of Portugal, they think is the end of Asia. Those who made the discovery did not go ashore, but they saw the land and descried nothing but abrupt mountains. That is the reason why, following the opinions of cosmographers, it is believed to be the extremity of Asia." On the Munich-Portuguese map of about 1519 an inscription of similar character may be found near DOLAVRADOR, telling that the Portuguese saw this country, but they did not enter it.[2] Ruysch[3] in his map of 1507 clearly followed this idea, giving the name Greenland to the northeastern extremity of Asia, and the same feature is to be noted on Maiollo's map of 1511.

[1] Stevenson: *Maps Illustrating Early Discovery and Exploration in America*, New Brunswick, 1903–1906. No. 1 is a reproduction of the Cantino chart in size of the original.

[2] Stevenson, l. c., No. v. Doubtless the Labrador of the early maps was generally Greenland. There was often confusion in the use of the terms Labrador, Bacallaos, and Terra de Corte-real, always remembering that in the use of these names, as in the case of other names, there was want of uniformity in spelling.

[3] It was my good fortune two years since to find a manuscript copy of the Ruysch map, which it is proposed to publish later.

NEWFOUNDLAND

TO the southwest of Greenland we find conspicuously sketched a thickly wooded land, having an eastern coast-line clearly indicated, but with a shading on the west which tells that the character and extent of the region was then unknown.

To this land Canerio has not attached a name. It is evident that he intended it to be a representation of the region visited by the Corte-Reals, which is suggested by its position relative to Greenland, by the Portuguese flag he has placed at the southern extremity, by the fact that on the corresponding region of the Cantino and other contemporaneous charts it is explicitly so stated. Cantino calls it Terra del Rey de portuguall, and has placed the following interesting legend at the north: "Esta terra he descoberta per mandado do muy alto excelentissimo sr. principe Rey dom manuell Rey de portuguall aqual descobrio gaspar de corte Real caualleiro na cassa do dito Rey, oquall quā do a descobrio mandou hū naujo com certos omes ȝ molheres que achou na dita terra ȝ elle ficou com outro naujo ȝ nūca mais veo ȝ crose que he perdido ȝ aquj ha muitos mastos"[1]: "This land was discovered by

[1] *Vide* Stevenson: *Maps Illustrating Early Discovery and Exploration in America*, No. 1.

order of the Most High and Most Excellent King Dom Manuel, King of Portugal. It was discovered by Gaspar de Corte Real, a nobleman of the court of the said King, who, when he had discovered it, sent (from there) a vessel with men and women of the said land. He remained with the other vessel, but he never returned, and the belief is that he was lost. Here is much mast timber."

The earliest accounts of the Corte-Real voyages do not give the exact latitude of the landfall. Galvam, who wrote his *Tratados*[1] several years later, states that it was at latitude 50°.

This point is included in Canerio's indicated coast, which extends from 46° to 57°.[2] Pasqualigo, the Venetian Ambassador at the court of Lisbon, writing to his brother concerning the second voyage of Gaspar Corte-Real, says: "They followed the coast of that land for a distance of six or seven hundred miles without finding the end of it, which leads them to believe it to be a continent."[3] Coast indentations and even rivers are indicated, but identification of these from his sketching is impossible.

It was not only the "many large rivers of fresh water, which emptied themselves into the sea," that attracted the attention of the early explorers. "They found," says Cantino, "pine and other trees of such height and diameter that they would be too large for masts even for the largest ships afloat."[4] Canerio, though less artistically than Cantino, has represented the region as covered with a forest, attempting to emphasize in picture the character of the country.

[1] *Tratados que compòs o nobre e notauel capitão Antonio Galuão.* Lisboa, 1563.

[2] Newfoundland is laid down on the modern map as located between 46° 30′ and 55° 30′ north latitude.

[3] Pasqualigo's letter to his brother may be found in Harrisse: *Les Corte-Reals,* Doc. XVIII, pp. 211–212.

[4] The text of Cantino's letter may be found in Harrisse: *Les Corte-Reals,* Doc. XVII, pp. 204–209.

One of the striking features of this land is its location in longitude. Accepting Newfoundland and a part of Labrador as the region coasted by the Corte-Reals, and the undoubted attempt to represent that region in the sketch here given by Canerio, the error appears very pronounced. The true meridian bounding Newfoundland on the east is 52° 35′ W. Canerio has placed the eastern boundary of this land, employing his own measurement of a degree of latitude, near longitude 34°.

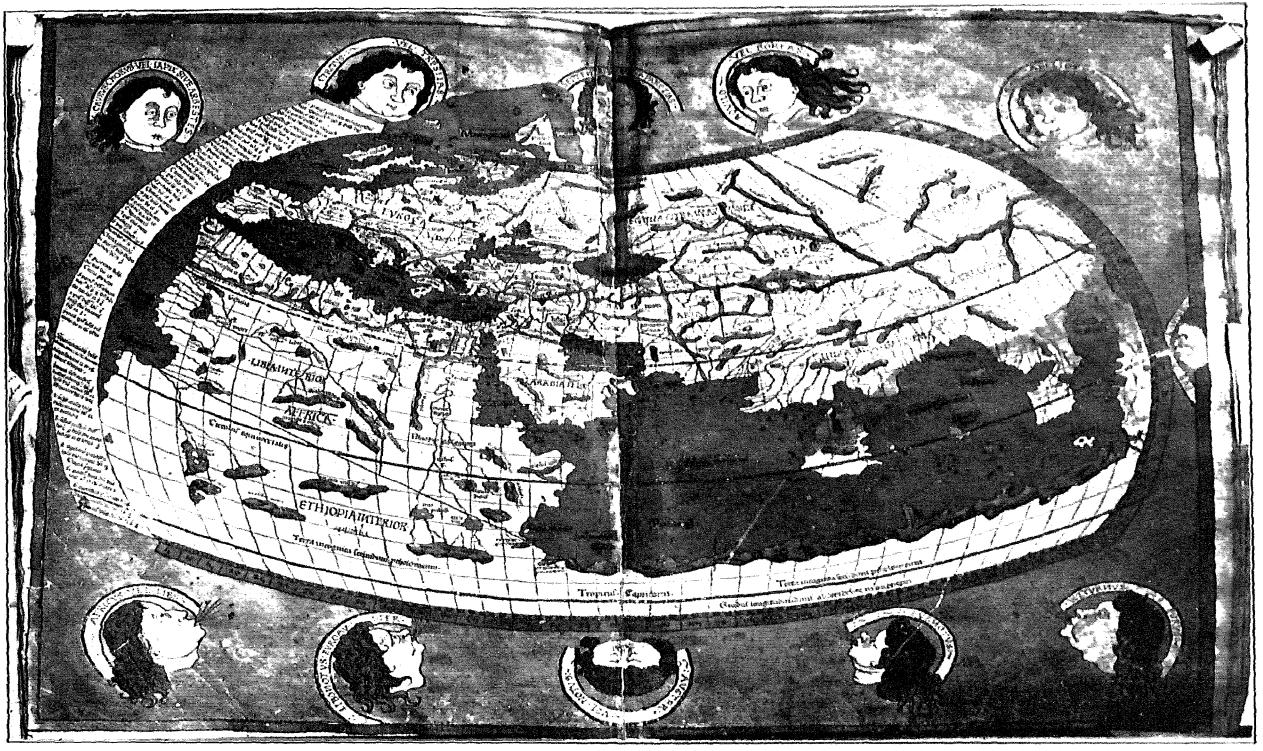
Two reasons, at least, may be given to account for such errors.[1] Navigators in that day were not equipped with instruments by means of which they could determine, with scientific accuracy, the position or the speed of their vessels. Indeed the speed of the ship, the disturbance of the currents, the imperfect acquaintance with declination: these were problems which they could not correctly handle. Chart-makers, in general, received their material from captains, pilots, and so-called cosmographers, who usually accompanied these early expeditions, and from this material they selected that which to them seemed most reliable for use in the construction of their charts. In the second place, cartographers in that early day were not always averse to a deliberate falsification of their maps. Santa Cruz asserts that the Portuguese were in the habit of constructing false maps for sale to foreigners, while those for use at home were more nearly correctly drawn.[2] Canerio has not drawn the Line of Demarcation which was agreed upon by Spain and Portugal, but Cantino places it to the west of his Terra del Rey de portuguall, as if to fix that

[1] Stevenson: *Comparative Fallacies of Early New World Maps*, in *Report of the Fifteenth International Congress of Americanists*, Quebec, 1906. Also a consideration of the subject in Kohl: *Die beiden ältesten Generalkarten von Amerika*, pp. 7–10.

[2] Navarrete: *Opusculos*, Vol. I, p. 61 *seq.*

land within the region which by papal decree had been assigned to Portugal as her sphere of influence where she might be permitted to make discovery and claim territory.[1]

[1] Concerning the Line of Demarcation *vide: Columbus' Own Book of Privileges,* compiled and edited by Benjamin Franklin Stevens, London, 1893, pp. 182–197, being the Bull of Alexander VI, with notarial certificate, 30 Dec., 1502. (The Bull was issued May 4, 1493.) A facsimile of the original document with English translation is here given. *Vide* also Thatcher, *Christopher Columbus,* 1903, Vol. II, Chaps. LXVIII–LXXIV. On the modern map the Line of Demarcation, as fixed by Pope Alexander VI, would correspond very nearly to the meridian 42°, but the difficulty in making any definite determination must be admitted, because of the indefinite statement, "west of the Cape Verde Islands."



World map from the Ulm Ptolemy, 1482

NORTH CONTINENTAL REGION— NORTH AMERICA

ONE of the most striking features of the chart is the indication of a continental region lying northwest of Cuba. Several theories have been advanced to explain the significance of this continental land —that it is Cuba,[1] that it is Yucatan,[2] that it is Asia. In accounts written concerning the history of early discovery in America the opinion has been expressed, more frequently perhaps, that the newly found regions in the west were thought to be a part of Asia. Columbus is cited as having professed to believe this until the end of his days. But he wrote particularly of islands discovered in his first voyage;[3] in his second he compelled the officers of his vessel to swear, it appears against the conviction of some,[4] that Cuba was a continent; and yet in his third voyage, when he discovered the mainland near Paria, and beheld the mouth of the Orinoco, he expressed the conviction that the mighty river came not only from an immense region at the south but from one wholly unknown.[5] In his fourth

[1] Supported by Henry Stevens.

[2] Supported by d'Avezac in his *Les Voyages d'Améric Vespuce au compte de l'Espagne,* Paris, 1858. There may be found a good brief discussion of the subject in Harrisse, *The Discovery of North America,* pp. 79–92.

[3] Columbus' *Letter to Santengal,* also his *Journal.*

[4] See the interesting account given by Michael de Cuneo, one of Columbus' companions on his second voyage. This may be found in Harrisse, l. c., p. 104.

[5] "I think that, if the mentioned river does not flow from the earthly paradise, that it comes from a vast extent of the land in the south, of which

voyage he made search for a strait through which he might pass to the waters of India, but, failing to find this, his belief concerning the Asiatic connection, it appears, was confirmed. With Harrisse, it seems to me, we may well conclude that the moment search began for a waterway leading from Oceanus Occidentalis to Oceanus Orientalis, that moment opinion began to become conviction that a new continental region had been found, a new world had been discovered.[1]

In 1497 John Cabot said that the land he had visited and explored was the country of the Great Khan; but in explaining the project to Soncino in December of that year he expressed the belief that Cathay was on the other side of the newly discovered land.[2] In 1503 Vespucci declared that he had been to a new world, and he followed the coast for many leagues in search of a strait through which he might pass to the Old World. It is now, we may say, the generally accepted opinion that Canerio as well as Cantino actually intended to represent here a newly discovered continent, and that they or those whom they copied were in possession of knowledge wholly sufficient to warrant this belief. Canerio has given this region a well defined Atlantic coast-line with a general trend slightly to the west of north, stretching from 20° to 55° north latitude, along which bays, estuaries, lakes, inlets, and headlands are numerous. Mountain ranges and forests are conspicuously indicated in the interior, but there is an indefinite termination of the country to the westward. At both the northern and the southern terminus of this coast a Spanish flag has

nothing hitherto has been known." *Vide: Select Letters of Christopher Columbus,* with other original documents relating to his four voyages to the New World. Translated and edited by R. H. Major, London, 1870.

[1] Perhaps the evidences best supporting this statement are the maps for more than a quarter of a century after Columbus' first voyage.

[2] *Vide* Harrisse, l. c., p. 107.

been placed, which may be taken to indicate a belief that the entire region belonged to Spain, it being clearly west of the Line of Demarcation, and not necessarily to indicate a belief that it had been explored by an official Spanish expedition. The northern stretch of the coast, however, runs in latitude beyond the landfall of the Corte-Reals, beyond the region visited by the Cabots; but there is no indication given of a connection with the Terra del Rey de portuguall, to which reference is made above, nor is there a trend of the line in that direction. Pasqualigo tells us that the coast visited by the Corte-Reals was believed to be connected with the Antilles and the land discovered by Cabral: "Etiam credeno conjungersi con le Andilie, che furono discoperte per li reali di Spagna, et con la terra dei papagà noviter trovata per le nave di questo re che andorono in Calicut": "Moreover, they believe that it is connected with the Antilles, which were discovered for the Spanish realm, and with the land of the parrots recently found by the ships of (the King of Portugal) which were on their way to Calicut."[1] The belief that the northern territory visited by John Cabot rightly belonged to Spain found expression in the despatches of Pedro de Ayala, Spanish minister at the court of Henry VII, which were sent to his sovereigns as early as 1497: "Lo que han hallado o buscan es lo que Vuestras Altezas poseen, porque es al cabo que a Vuestras Altezas capo por la convencion con Portugal": "That which they have found or for which they search is that which Your Highnesses already possess, because it is at the cape which fell to Your Highnesses by the treaty with Portugal."[2]

[1] This letter to the Venetian Signory, written October 18, 1501, may be found in Harrisse: *Les Corte-Reals*, Appendix, Doc. xviiia, pp. 209–211.

[2] The official communication is given by Harrisse: *Jean et Sébastien Cabot*, Doc. xii.

In the coast here sketched we undoubtedly have an early delineation of a large part of the Atlantic coast of the United States; how much, it is impossible definitely to determine, remembering the numerous errors in location and the impossibility of an exact identification of places along the coast in these early charts. In the peninsula projecting toward the Island of Cuba, however, there is no longer reason to doubt that we have a representation of Florida, notwithstanding the error in location. Canerio has placed its southern extremity in about latitude 35° whereas the correct latitude is 24° 30′.[1] The large gulf to the west of this peninsula bears an unmistakable resemblance to the Gulf of Mexico in outline. Here we have the only apparent indication that Canerio mistook the region for the extreme east. In the numerous islands, promiscuously inserted and without name, there is the suggestion that he or the chart-maker he copied had knowledge of the account of Marco Polo in which that traveler relates what he had learned concerning the islands off the Asiatic coast.[2] From this gulf southward to the terminus of the north continental region there is less to indicate an intimate acquaintance than we find in the north. No name appears below the northern shore of this gulf.

Along the north continental coast here indicated, beginning at the extreme north and concluding at a point well to the west on the north shore of the gulf (Gulf of Mexico), Canerio has inscribed twenty-three names, one more—"lago del lodro"—than is given by Cantino.[3]

[1] The earliest authentic written accounts we have of the visit of Spanish mariners to this particular coast are those telling of the expedition of Ponce de Leon. There are, however, numerous reasons for believing that earlier visits had been made.

[2] Marco Polo relates that there are 12,700 islands in the Indian sea. *Vide* Yule: *The Book of Sir Marco Polo* (Edt. by Cordier), Vol. II, p. 424.

[3] *Vide* the names given in the comparative table, p. 84. Harrisse has not read correctly many of these names

Not one of these names can be taken to indicate a belief that the east coast of Asia is here intended; not one of the names appears on a chart of earlier known date than the chart of Cantino. The names, in character, are such as are generally found on these early maps—names derived from saints' days, from captains of vessels, names descriptive of the locality in which they are inscribed, and names thought worthy for reason of being thus recorded. It would indeed be interesting were we able in these earliest names given to points along our Atlantic coast to identify correctly the localities.

When and by whom they were given we are unable to ascertain. There is, however, no substantial ground for considering them the mere suggestion of fancy. Kohl has well said: "I do not believe that the Spanish, Italian, and German map-makers of the time of Columbus and soon after him were in the habit of inventing new names. They gave them as they found them. A little later, when elegant maps were much sought after and became fashionable, and when great numbers were fabricated in Italy and elsewhere, unknown countries may sometimes have been embellished with merely fanciful names."[1]

Not knowing the explorer, or perhaps explorers, by whom these names were given, I attempt nothing more in connection with the list which follows than to give the probable meaning in each instance.

costa del mar vsiano,[2]
cabo dellicontir,[3]
caninor,[4]
cabo de bona uentura,[5]

which he has printed in his *Les Corte-Reals* and his *Discovery of North America.*

[1] Kohl: *History of the Discovery of Maine,* Vol. I of *Documentary History of the State of Maine,* Portland, 1869, p. 162.

[2] The coast of the ocean sea.

[3] Cape of the meeting.

[4] Compare this name with the last one given on the coast of South America.

[5] The cape of good luck.

costa alta,[1]
lago luncor,[2]
lacabras,[3]
Rio de los largactos,[4]
cabo santo,[5]
Rio de las almadias,[6]
ponta roixa,[7]
C. delgato,[8]
rio de do diego,[9]
comello[10] (camelo?),
Cauo doffim de abull,[11]
el gofo bazo,[12]
cauo luicar,[13]
Cauo de mortinco,[14]
Gorffo do lineor,[15]
cabo ailear,[16]
Rio de como,[17]
Rio de laparmas,[18]
lago del lodro.[19]

The striking resemblance of this continental coast-line to that which we find on our modern maps is in itself an *a priori* argument that it had been visited and roughly charted prior to 1502. What do the known written records have to tell us concerning such visits? Not a great deal that is explicit and indisputable. Yet there is no longer reason for doubting that a considerable stretch of this coast had been seen by European explorers many years before Ponce de Leon, or Vasquez de Ayllon, or Verrazano, or Gomez, turned their prows in that direction.[20]

[1] The high coast.
[2] The lake of luncor(?).
[3] The goats.
[4] The river of the alligators.
[5] The saint's cape. Perhaps originally some saint's name was given.
[6] The river of canoes.
[7] The reddish headland.
[8] The cape of the cat.
[9] The River of Don Diego.
[10] The camel.
[11] The cape of the end of April.
[12] The low gulf.
[13] Meaning unknown.
[14] The cape of Martin.
[15] Meaning unknown.
[16] Meaning unknown.
[17] Perhaps for "Rio do corvo," the river of the raven. It is mere conjecture to propose a connection between this name and Como, Italy.
[18] The river of palms.
[19] The lake of gold.
[20] It is well worth noting "That, notwithstanding incomplete researches in the Spanish and Portuguese archives, governmental as well as notarial, and the loss of a vast number of documents, we possess authentic proofs of not less than ninety vessels belonging to twenty-nine expeditions (besides those of Columbus, Vespuccius, De Lepe, Bastedas, Hojeda, Guerra, Pinzon, and La Cosa), all equipped before 1504, and which sailed over the area of the West Indies, which are within ninety miles of the continental region, northwest of the Bahama bank,

When properly interrogated, many of these early charts yield most valuable information concerning the earliest history of our country when other sources fail us. Again quoting Kohl, than whom there has been no one possessing a keener insight into the value of early cartographical records: "Historians, geographers, explorers, and travelers have sometimes laid down on their maps and charts certain facts, of which they have omitted to speak in their reports and books, finding it easier to speak to the eye than to the ear; or rather to convey the information they wished to impart, by using the brief and compact delineation of the map instead of the diffuse and cumbersome phraseology of the book. It is not seldom the case, that an old map will contain the only information we possess concerning some expedition or discovery." [1]

It is very certain that more of the geography of the New World was known in 1502 than can now be gathered from the records of the few official expeditions.[2] made under the flags of Spain, of England, and of Portugal. The decree of April 10, 1495, issued by the authority of Ferdinand and Isabella, authorizing any one, under certain conconditions, to fit out an expedition "descobrir otras islas è tierra-firme à la parte de las Indias en el mar Oceano": "to discover other islands, and continents in the region of the Indies and in the Ocean,"[3] led, as we know, a number of explorers to sail to the west in quest of new lands. The

that is, a distance which a gust of east or of south-east wind would have enabled any swift caravel to run over in twenty-four hours. And in that list of vessels, there are only three or four clandestine expeditions; whilst we know that these were numerous." Harrisse, *Discovery of North America*, p. 361.

[1] Kohl, l. c., p. 26.

[2] As from the expedition of Columbus of 1492, 1493, 1498; of Pinzon, Diego de Lepe, Velez de Mendoza, Hojeda, Guerra-Niño, Vespucci, of 1498–1502; of the Cabots, 1497, 1498; of the Corte-Reals and Cabral, 1500–1501.

[3] The restrictions relate to certain regulations respecting the expeditions, to prior rights, and to certain taxes. *Vide* Navarrete: *Coleccion de los Viages*, Doc. LXXXVI, Vol. II, p. 165.

decree ordered, however, that such expeditions should not undertake to enter or explore the regions hitherto visited and claimed. It is not at all improbable, therefore, that the continental coast to the northwest of the Antilles was visited by the navigators who sailed under the permission of this decree. Nor did its revocation two years later prohibit absolutely the further equipment of expeditions at the Spanish ports; indeed, Columbus himself, whose rights, it was claimed, had been invaded by the decree of 1495, expressed in 1496 a liberal attitude toward such as desired to make trans-Atlantic discoveries.[1] There are numerous references in the early records to unlicensed voyages which were made to the West in the first decade after Columbus had shown the way to the new lands, and such voyages were doubtless more numerous in the subsequent decade.

Gomara, writing some years later, says: "Entendiendo cuán grandisimas tierras eran las que Cristóbal Colon descubria, fueron muchos á continuar el descubrimiento de todas, unos a su costa, otros à la del Rey, y todos pensando enriquecer, ganar fama y medrar con los reyes. Pero como los mas dellos no hicieron sino descubrir y gastarse, no quedó memoria de todos, que yo sepa, especialmente de los que navegaron hacia el norte, costeando los bacallaos y tierra del Labrador": "Understanding how very extensive were the lands which Christopher Columbus was discovering, there were many who wished to take up and com-

[1] "Para en lo de descobrir de nuevas tierras paresçeme se deva dar licencia á todòs los que quisieren yr, y alargar la mano en lo del quinto, moderandolo en alguna buena manera, á fin de que muchos se despongan á yr": "As to the discovery of new lands, it seems to me that permission ought to be given to all who wish to go, and that we should be liberal respecting the royalty, so moderating it as to induce many to avail themselves of the opportunity." *Cartas de Indias*, Doc. I, p. 5. In a note to the above the opinion is expressed that it would not be rash to conclude it was written in the second half of 1496 or the beginning of 1497.

plete the discoveries; some at their own expense others at the expense of the King, hoping in this wise to become rich and famous. But as most of those who made these discoveries were ruined thereby, there is no recollection left of any of them, so far as I know, particularly of those who sailed northward coasting the Bacallaos region and the land of Labrador."[1]

We can not, therefore, as I have said, determine with any satisfactory degree of certainty just who the navigators were who sailed along these coasts prior to 1502. Nor can it longer be doubted that they were sighted as I have also said, and that they were charted as pilots and captains were in the habit of charting sections of the new coasts, furnishing data which served the cartographers at home in the construction of their larger maps.[2] We need not assume, as has been done, that the truth of this statement must stand or fall with the acceptance or rejection of Vespucci's account of his first voyage, but which account, it may be said, is probably in the main a true one.[3]

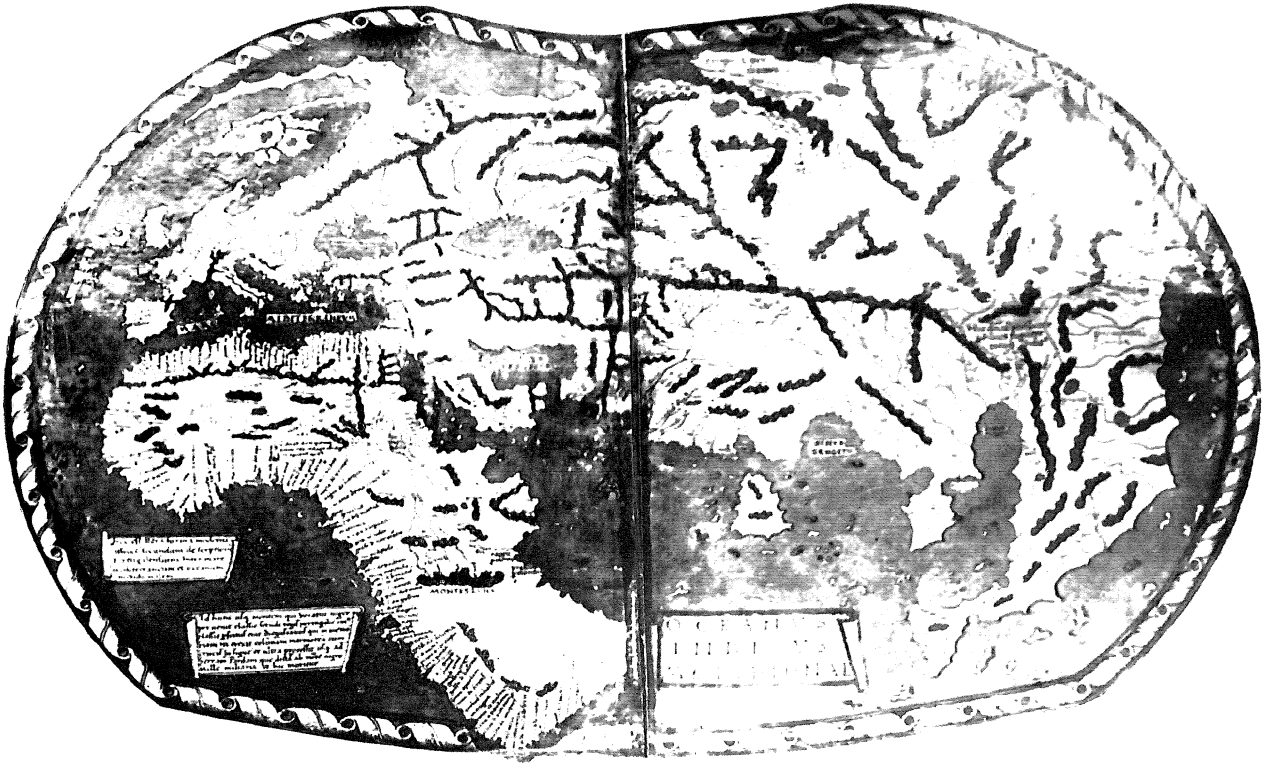
[1] Gomara: *Historia de las Indias,* Vol. I, p. 177. On the Ribero map of 1529 we find the following legend written across Tierra de Labrador: "Esta tierra descubrieron los Ingleses no ay en ella cosa de prouecho": "This land was discovered by the English, and there is nothing in it of profit." The legend on Tierra de los Bacallaos reads: "Tierra de los Bacallaos laqual descubrieron los corte reales y aquay se perdieron. Hasta aora no an allado cosa de prouecho mas de la pescaria de bacallaos que son de poca estima": "Land of the codfish, which was discovered by the Corte-Reals, and where they were lost. Up to the present time nothing of value has been found there except the fisheries of codfish, and these are not of much value." The Ribero map is reproduced in full size in Stevenson: *Maps Illustrating Early Discovery and Exploration in America,* No. 11.

[2] In this connection it is interesting to note: "The original maps, the coast sketches made by pilots, captains, and professional draughtsmen who accompanied early expeditions to the New World, with scarcely an exception, have been lost or destroyed. The typical maps, therefore, as all maps, are derivatives, not originals drawn *de visu,* into the composition of which many coast sketches, many descriptive records, have entered." *Vide* Stevenson: *Typical Early Maps of the New World,* in *Bulletin of the American Geographical Society,* April, 1907.

[3] The account given by Vespucci of his first voyage—and his account is the only one we possess concerning it

Admitting much that is justly said concerning the difficulties in the way of accepting parts of Vespucci's narrative, there is enough of that story left when the apparently impossible statements are rejected, to warrant our holding it as a measurably accurate record of an early voyage, and to justify the belief that Vespucci may have been one of the earliest of the European navigators to sail along a considerable part of our Atlantic seaboard.

bearing date as early as 1504, in which year it was printed in Italy—has been variously estimated. There are those who accept it in its entirety, others only in part, while still others, arguing largely from "silence," accuse him of an effort to advertise himself as an explorer of renown and assume that there is absolutely no foundation for his story.



Henricus Martellus Germanus, circa 1490

THE WEST INDIES

TO the southeast of this continental region Canerio has represented the West Indian group of islands. He calls the group "Has altilhas del Rey de Castella descoberta por collonbo ienoeize almirante que es de las aquales ditas insullas se descobriram per mandado do muyto alto et poderoso principe Rey dom Fernando Rey de castella": "The Antilles of the King of Castile, discovered by Columbus, a Genoese admiral, and which said islands were discovered by command of the very illustrious and powerful prince King Dom Fernando, King of Castile."[1]

To scarcely one-half of the islands indicated are names given, and but one coast name, "cabo de samana," which appears on the north coast of Haiti. The survey of the region seems yet to have been far from complete, and although the larger islands are relatively accurately placed, very many of the smaller ones appear to have been inserted promiscuously. To his largest island he has given the name "insulla issabella," a name often found on the early charts.[2] Columbus on his discovery of the island called it Juana, in honor of the Royal Prince, Don Juan, a name which, as it appears, was little used.[3] As early as

[1] Cantino refers to this as a discovery made by Columbus the Admiral, but he does not speak of him as a Genoese.

[2] The name is variously spelled, Isabel, Issabella, Ysabella, and is sometimes given to the island of Haiti.

[3] On the Reisch map of 1515 we find the continental region northwest

1500 we find it designated Cuba on the map of Juan de la Cosa, and Isla de Cuba on the Oliveriana [1] map of early date. The evidence of the early charts is so convincing that there is no longer reason to hold to the opinion often expressed that it was not known to be an island until circumnavigated by Ocampo in 1508, on his official expedition of that year.

To the southeast of "insulla issabella" appears the "insulla spagnolla," not with an accurate delineation but giving evidence in its indentations and headlands of having been surveyed with some degree of care.[2] Columbus had called it La Espagñola because its forests and foliage reminded of the homeland.

Canerio, as stated above, did not give names to each of the smaller islands, many of which islands he may have copied into his work from incorrectly drawn charts or may have sketched them as fancy dictated. It is not difficult to trace the origin of most of the names which he thought should be inserted, although in some instances we can be certain neither of the origin nor of the significance of the name, because of his orthography.

Among these, following the group from west to east we find that to the one first designated he has given the name "babueca," a name heard by Columbus on his first visit to Cuba. Babueca, said the Indians whom he met, is a land

of Cuba is called Zoana Mela, Zoana being a Venetian form for Juana. In the form Zoana Mela we have an example of a printer's strange error. *Vide* Wieser: *Zoana Mela. Ein Beitrag zur Geschichte der Erdkunde in den ersten Decennien des XVI. Jahrhunderts.*

[1] This important map is soon to be issued in facsimile as one of the series of early maps to which the reproduction of Canerio's chart belongs.

[2] The numerous and very extensive indentations or harbors along this coast may have their origin in the report of Columbus. In his *Letter to Santengal* he says: "In it, there are many havens on the sea coast, incomparable with any others which I know in Christendom, and plenty of rivers so good and great that it is a marvel." *Vide* Thatcher: *Christopher Columbus,* Vol. I, p. 21.

rich in gold lying to the east. Its exact locality was uncertain; a dreamland it was, which was destined eventually to disappear from the maps, although we find it on the charts of Cantino and of Waldseemüller. On the Ribero charts of 1529 we read, baxos de babueca (banks of babueca) to the east of Haiti, a name which later gave place to Abrellos (open the eyes).

The names "somẽto" and ".y. sanra" can not easily be identified. For the second name, Cantino gives, ilha santa, which perhaps is the correct spelling, but we are still left in doubt as to the reason for indicating in that locality an island bearing this name.

The name "caty," given by Canerio to the next island, one of larger size than the former named islands, gives evidence of carelessness in the transcribing. Cantino writes, haty, which doubtless is the correct form. It appears that Columbus heard the word Haiti shortly after his first landing in the New World, a word which Herrera thought to mean a rough and broken country.

The name ".y. magna" can not be identified. Instead of the island being large, a thought which is suggested by the spelling, it is one of the smallest of the entire group.[1]

The island "macubiza"[2] may be identical with that called by Ribero yabeque. Though a marked difference in spelling is to be noted, its position gives a suggestion that the same island is meant in both instances. It has been thought to be identical with the Crooked Island of the modern map.

[1] Ribero, on his map of 1529, gives the name Manigua to one of the islands of this vicinity. It appears to be in about the locality of the island Samaná, or Atwood Keys, on the modern map. Manigua is a word sometimes used to mean a thicket.

[2] *Macuba* is an Italian word meaning "snuff," and is said to be derived from the name of a town in the West Indies. The Spanish word *macuba* is a name for Martinique tobacco. May we not find here the origin of the word?

The island "ianucanaca" is perhaps identical with the yucanacan of the Turin-Spanish map and of the Ribero maps, the origin and significance of which is unknown.

In the name ".y. de incaio" (Cantino gives, ilha de Jucayo) we have the suggestion that the island Lucayo, one of the Bahama group, is meant, although the position of the island is relatively far from accurate. I venture to suggest the identity, however, and that the error is due to the use of an incorrect sketch of the region by Canerio, confusion in the location of names being common on these early charts. The name Lucayo appears to be of Indian origin, and to have been often employed as a collective name to designate a group of coral islands, particularly in those early years. Kohl suggests that the English word Keys owes its origin to the Spanish word *cayos.*

The origin and the meaning of the name ".y. de carcenie" are unknown. We have in its appearance the suggestion that it may be a much altered form of the word caiman, or cayman, a crocodile or alligator. We often meet with the name, largactos, on early maps.

The banks indicated by the name "baixos de abruos olhos" [1] are practically identical in location with the baxos de babueca of Ribero and the abre Loyo of the Turin-Spanish map. On the maps of to-day we find the Silver Bank indicated in this locality.

The island "Tartuga," north of "insulla espagnolla" was discovered by Columbus December 15, 1492, and was by him named Tortuga, a name which has been retained.

"cabo de samana" is the name given to a promontory on the northeast coast of "insulla espagnolla" (Haiti) by Columbus on his first voyage. It appears to have been the last point sighted by him on his return journey, and the

[1] See "Abrellos" above.

name is yet retained. It is the most eastern point on the north shore of the excellent harbor, Bahia de Samaná.

In the name "boriquem" and in its location we are able to recognize the present Porto Rico, or Puerto Rico.[1] It is hardly probable that the island was sighted by Columbus until his last voyage, yet he learned from the Indians, when in "espagnolla," on his first voyage, of an island to the east called Boriquen. The name first appears on the map of Juan de la Cosa, and, it seems, was long retained, appearing at a much later date on some of the charts of the New World. Even on Spanish maps of to-day we find Punta Bruquen on the northwest coast of Puerto Rico.

The "laonizes mil virgines" were sighted and named by Columbus on the 14th of November, 1493, a name he seems to have given because of the large number of small islands in the group. This group to-day bears the name Virgin Islands.

Next to the east we find ".y. de gada lupo," which was discovered by Columbus November 4, 1493, and was named by him Nuestra Señora de Guadalupe; this he did remembering a promise he had made to the monks of Maria de Guadalupe, a monastery of Spain, that he would thus honor their house by giving its name to one of the islands of the West Indies. Through favoring circumstances—its high mountains and its important location—it seems to have been regarded at an early date as of considerable importance.

[1] In 1514 Governor Juan Ponce de Leon was commanded to erect a fort and establish a permanent official residence on the one good harbor on the north coast of this island. To the town or city here begun, as to the island itself, he gave the name San Juan. It soon came to be known as San Juan de Puerto Rico, but in time the name San Juan for the island was given over and the name Puerto Rico was retained. We find Puerto Rico on a map as early as 1527. *Vide* Stevenson: *Maps*, No. 9.

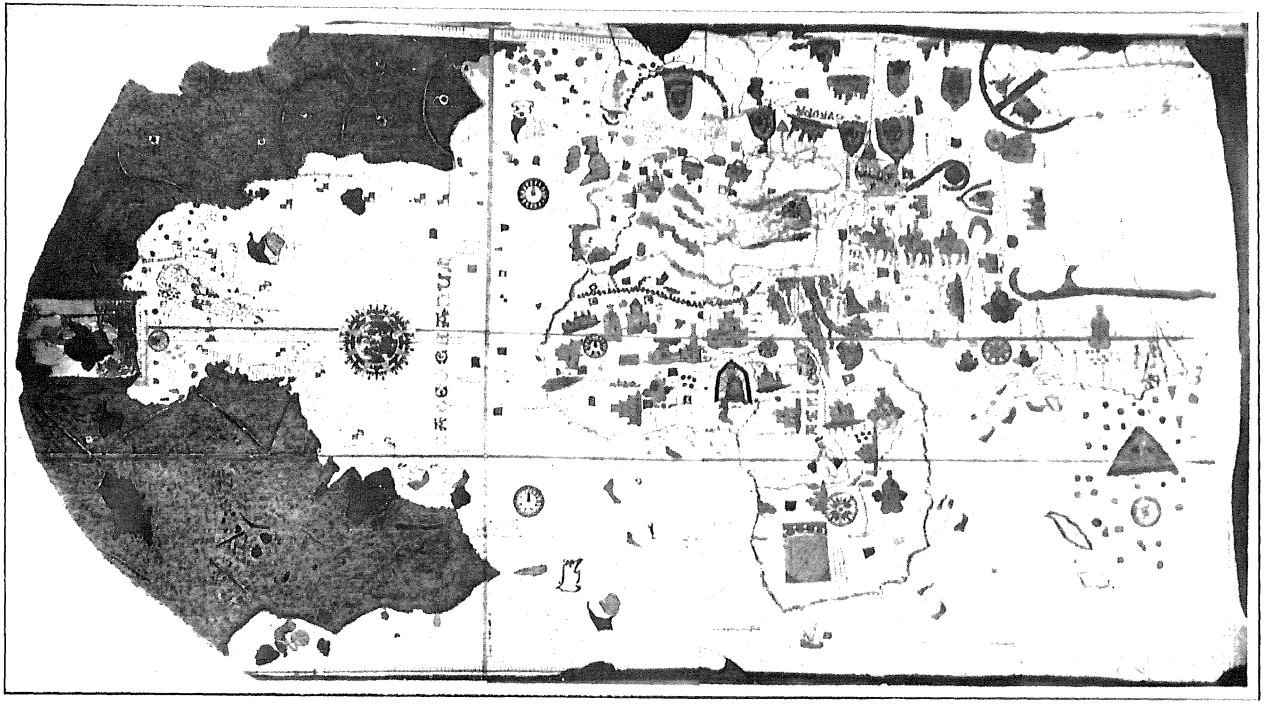
In the ".y. de sorana" there appears to be an incorrect reading of the original name. Cantino writes, ilha desejada, which perhaps is as it should be. Herrera tells us that Columbus, in the early days of November, 1493, discovered a small rocky island which he called Desejada. This is a name (the desired) often met with on early charts, the origin of which being sufficiently evident. It remains on the maps to-day, slightly altered into La Désirade, and is described as high, rocky, and infertile, lying nine miles to the east of Guadaloupe.

"y. do Santos." This island, lying to the south of ".y. de gada lupo," is probably the island Dominica.

Farthest east lies the island "marigalante," a name given by Columbus in honor of one of his vessels which sailed in 1492. It bears the name to-day, Marie-Galante, and is one of the islands of the French West Indies.

Las Casas tells us that the Indians of Haiti, the 6th of January, 1493, gave to Columbus information of a large and beautiful island south of Cuba, which they called Yamaye. This is the "iamaiqua" of Canerio. It was not until May, 1494, that he visited its northern, and not until July when he sailed along its southern coast. We learn from Herrera that he called it Isla de S. Jago, which indicates that it was July 25th, when he landed or when he gave it the name.[1] Notwithstanding the efforts of the Spanish King to establish by decree the saint's name, it was the name given by the Indians which in the end came to be accepted, that is Jamaica.

[1] Herrera, *Descripcion de las Indias occidentales*, 9, 1.



Map of Juan de la Cosa, 1500

SOUTH CONTINENTAL REGION—SOUTH AMERICA

CANERIO represents the entire north and east coast of South America included between the Gulf of Maracaibo and the mouth of the La Plata River. The appearance of the east coast-line, however, would scarcely indicate that a point so far south was intended, yet the terminus is in latitude 37° S., employing his own reckoning, and we have other documentary evidence that at least so much of the coast was explored between 1498 and 1502. Two Spanish flags are placed on the north coast, along which region a legend is also inscribed within a ribbon-like scroll: "Toda esta terra he descoberta per mandado del Rey de castella." At the turn in the coast of Brazil from eastward to southward a Portuguese flag is drawn and a second one at its southern terminus.

Along the entire length of the coast-line stretches a mountain range with indication of forests, and, with scarcely the artistic touch of a Cantino, we find four parrots conspicuously represented in the Brazilian region.

Very many of the names given appear here for the first time on a known chart. Cantino represents thirty-three coast names, Canerio gives fifty-eight, the islands indicated being included in each instance. It is practically certain that these names were given between the years 1498

and 1502, and doubtless by those who participated in officially authorized expeditions. While we can not always determine with certainty the exact landfall of each known Spanish and Portuguese expedition to these coasts, the names we find recorded on the charts greatly assist in the settlement of certain disputed questions concerning early expeditions to this part of the New World.

Within the years designated we know of eight or more well authenticated visits to these coasts, not including what is sometimes given as Vespucci's first voyage of 1497, and that there are incidental references in the written records to many which may have been made to the same part or parts of the region indicated. Among these we may note first the third voyage of Columbus between May 30, 1498, and November 25(?), 1500, with six or eight[1] ships, coasting the mainland, perhaps, from the mouth of the Orinoco or Amazon to Cumaná.

Alonso de Hojeda, who had accompanied Columbus on his second expedition, and who was himself accompanied on this expedition by Juan de la Cosa and Amerigo Vespucci, sailed from a Spanish port in the summer of 1499, returning in April or June of the following year. He touched the coast of Paria, following it, it appears, as far as Cabo de la Vela, the present La Vela.[2]

Peralonso Niño and Cristobal Guerra appear to have made an expedition, covering about the same time as the above mentioned expedition, and to have visited in their one small vessel a section of the north coast of South America westward of the Orinoco.[3]

[1] Las Casas: *Historia de las Indias,* Vol. II, p. 201, says six; Peter Martyr: *Decades,* I, Lib. VI, says eight.

[2] Las Casas, l. c., Vol. II, p. 268; Oviedo: *Historias de las Indias,* Vol. III, Cap. 3; Herrera: *Historias de las Indias,* Vol. I, Lib. IV, p. 125.

[3] Las Casas, l. c., Vol. II, p. 435; Navarrete: *Coleccion,* Vol. III, pp. 541–543.

About November 18, 1499, Vincente Yañez Pinzon sailed from Rio de Saltes with four ships, returning with but two of these to Palos September 30, 1500. He doubled Cape Santa Maria de la Consolacion, January 20th, sailing northwest, passing the mouth of the Marañon (Amazon) and through the Boca del Drago to Haiti, thence homeward.[1]

In December, 1499, Diego de Lepe sailed from Palos, touched the coast of Brazil, doubling Cape St. Augustine as he sailed southward, to which cape he appears to have given the name Rostro hermoso. Retracing his course, he met, doubtless by chance, the expedition of Pinzon. His voyage carried him as far as the coast of Paria, whence he returned, reaching Palos in November, 1500.[2]

The 9th of March, 1500, Pedro Alvarez Cabral left the port of Lisbon with thirteen vessels bound for Calicut. It may have been by accident that he touched the coast of Brazil, April 22d, at a point near the present Monte Paschoal. He appears to have sailed as far north as the present Porto Seguro, and from this point Cabral departed for the Cape of Good Hope to continue his voyage to Calicut, but Gaspar de Lemos was sent back to Portugal to carry the word of the discovery of a land to which the name Terra de Santa Cruz was given.[3]

Rodrigo de Bastidas sailed in October, 1500, under letters patent dated June 5, 1500, to discover "islas e tierra-firme á las partes de las Indias, o á otra cualquier parte, con tal que no sea de las islas é tierra-firme que fasta aqui son descubiertas por Cristobal Colon e por

[1] Navarrete, l. c., Vol. III, p. 547; Peter Martyr, l. c., *Decades*, I, Lib. IX.

[2] Las Casas, l. c., Vol. II, pp. 442, 453; Navarrete, l. c., Vol. III, pp. 23, 544, 553.

[3] Ramusio: *Navigationi et Viaggi*, Venetia, 1556, Vol. I, pp. 132–139; Humboldt: *Kritische Untersuchungen über die historische Entwickelung der geographischen Kenntnisse von der neuen Welt* (Ideler's translation from the French).

Cristobal Guerra." It appears that Andreas de Morales and Juan Rodriguez, pilots, sailed with him, as did also Juan de la Cosa. He first touched the mainland at some point along the Cumaná coast, sailed thence westward, at least to the Gulf of Darien and perhaps as far as Puerto del Retrete, including the entire coast of Panama. This part of the New World, however, Canerio omits from his chart. He returned in September, 1502.[1]

The above mentioned voyages are among those that are known to have been made to the north coast of South America prior to 1502.

In May, 1501, Vespucci made, as he tells us, his third voyage to the West, returning to Lisbon in September of the following year. The evidence is most convincing that he was the first to follow the coast of Brazil southward of Monte Paschoal. To some one or other, then, of the expeditions here referred to, and in all probability to none more than to the voyage of Vespucci we must look for the origin of the majority of the names found on Canerio's chart. Indeed, it seems to me that for a considerable part of the east coast indicated it may be regarded as the reproduction of Vespucci's chart.[2]

Noting the names which appear along the coast of South America, as we have noted the names of the islands of the West Indies, and presenting these names from west to east, we find the following:

The island "Tamarique" seems, as Harrisse has noted, to have some affinity with Maracaibo. Yet we can not be certain of the origin of the name nor of the identity of the land.

[1] Navarrete, l. c., Vol. III, p. 25; Oviedo, l. c., Vol. I, Lib. III, Cap. 9.

[2] *Vide* the translation from Italian into English: *The first Four Voyages of Amerigo Vespucci,* Quaritch, 1893; also the Latin version to be found in Waldseemüller's *Cosmographiae Introductio.*

Near the former name, appearing indeed as a part of it, is the name ".y. arqua." Cantino gives, ilha Rigua, which more nearly resembles the name Rica. In some of the early charts Ilha Rica seems to have been a name for Yucatan, and we find that for a considerable time that peninsula was indicated on the charts as an island. It is quite remarkable that it should be so given on the maps of Ribero as late as 1529.

In "arcay bacoia" Canerio appears to have been in doubt as to whether he was sketching an island or a peninsula. A little touch of color seems to make of it a peninsula. Las islas de Arquibacoa were discovered by Hojeda on his first voyage, which may be the name intended by Canerio.

On Ribero's chart we find p. daraya given to a tongue of land south of the island Margarita, which was discovered and perhaps named by Niño and Guerra in 1499. On the modern map of Venezuela we find the small peninsula Araya.

The "insula de gigantes" was discovered by Hojeda in 1499 and given this name because his men were greatly impressed with the size of the native islanders.

".y. do brasil" owes its name either to the fact that it was found to be a thickly wooded island or that dye-wood was here found in abundance.

"Gorffo de linferno" may refer to Hojeda's battle with the Indians which took place in this vicinity in August, 1499, in which battle some of his men were killed. It is doubtless identical with Juan de la Cosa's Po flechado (the port of those shot with arrows). A gulf in this region bears to-day the name Golfo Triste.

The "Costa de gente braua" seems also to owe its origin to the expedition of Hojeda. Harrisse translates this, Coast of brave men; a better translation, it seems to me, is

Coast of fierce (wild) men. Spanish cartographers were long accustomed to designate this as the Cannibal Coast.

The "Rio de fonsoa" suggests an effort to honor Bishop Juan Rodriguez Fonseca, who had general charge of maritime and colonial affairs in Spain until the establishment of the *Casa de Contratacion* in 1503. On the map of Juan de la Cosa we find, in this vicinity, r. del obp̄o (the river of the bishop). But it is not at all infrequent that such names refer to some member of an expedition, and we can not be certain that we do not have here such an instance.

Where Canerio writes "Montagna altisimas," Cantino has Montanhis albissimas, which Harrisse takes to be the correct form, believing they are the White Mountains first noticed by Bastedas on his expedition of 1500.

The name "Cabo de las perlas" was given by Columbus, who visited the coast in August, 1498, on account of the pearl fisheries which he found here. Juan de la Cosa calls the entire coast of Venezuela Costa de perlas, as if to magnify the riches of the newly found country. In the summer of 1499 we learn that Guerra, Niño, and Hojeda engaged in a very lucrative trade here with the natives.

".y. de larapossa," the she-fox island, is a name of unknown origin.

The name "las gaias" is the Spanish for magpie.

".y. de los canbales" is a name given to a chain of islands discovered by Columbus in August, 1498. Columbus had called this chain, islas de los caribales. With an "r" changed to an "n" we have the word Canibales. Caribes he had carried home with him on his first voyage, and it was then thought to be a name given to a warlike, cannibalistic folk, a name he had heard in the island of Haiti. The name Isla Carib, las Islas de Caribes, it ap-

The Cantino chart, circa 1502

pears, was applied to various islands and to various groups of islands, and early came to signify the land or the islands of cannibals.

"la ponta delagalera" is a name which was given by Columbus, July 31, 1498, to this headland.[1] The name has long since disappeared from this part of the map, but it is not without interest to find that the name Bahia de la Galera de Zamba appears on the northwest coast of Colombia to-day. Gomara notes the identity of the native word *zamba* with the Spanish word *galera*.

"Cabo deseado" (the desired cape) may refer to the character of the point of land named or to a fortunate experience after a mishap in one of the early expeditions. Harrisse, however, suggests that the original form was Cabo desecado, the meaning, therefore, being, the arid cape.

The name "Rio grande" is a name frequently met with on the early maps of South America. It seems probable, however, that the Amazon River is here meant. We have the record that Diego de Lepe discovered a river on this coast which he called Rio Grande de Santa Catalina, and in the deposition of Luis del Valle we find the reference, Rio grande que se llama Marañon.

The legend "Todo esto mar he de agoa dolce" refers to an observation made by Columbus on his third voyage, and it is altogether probable that the reference is to the more northern entrance to the Amazon River. In the "Gorffo fremoso," which is located some distance from the indentation near which the legend just referred to may be found, we perhaps have a reference to the mouth of the Para River. *Fremoso* is an old form of the well known form, *hermoso*.

[1] Navarrete, l. c., Vol. III, pp. 553-554.

The name "Cambales" doubtless owes its origin in this locality to the recollection of the conflict which Pinzon had with the natives, and to the belief that the men killed in battle were eaten by the enemy. The event is recalled in picture on many of the early maps, although some liberty has been often taken in the location of the scene.

The earliest information we have of "Sam Rocho" we get from the report of the expedition of three ships which was sent out by the Portuguese King in 1501 for the purpose of following up the discoveries of Cabral of the preceding year. This is the expedition we find recorded as the third of Vespucci. From the name here given we learn that it touched this point August 16th, that being Sanctus Rochus day in the calendar of saints. Thence the expedition sailed southward along the coast, "until the South Pole was at an elevation of 32 degrees above the horizon," says Vespucci, and the names of many of the saints were given to rivers, bays, and headlands,[1] on whose feast days the discoveries were made.

[1] The following are the saints' names found in the calendar of the Roman Catholic Church, which are inscribed by Canerio on the Brazilian coast of his chart:

Sam Rocho,	August 16.
Rio de Stā lena (Helena),	August 18.
Rio de stō augustino,	August 28.
Santa maria,	September 8.
Sam michel,	September 29.
Rio de Sam ieronimo,	September 30.
Rio de sam fransesco,	October 4.
Rio de vergine,	October 21.
baie de tuti li santi,	November 1.
Rio de stā lucia,	December 13.
Serra de sam tome (Thomas),	December 21.
baie de reis (Epiphany),	January 6.
Rio de Stō antonio,	January 17.
porto de Sam sebastian,	January 20.
porto de Sam vicenso,	January 22.
Alapego de sam paullo,	January 25.
Rio de sam iacomo (Jacobus),	July 25.

"Santa maria de gracia" is a name which would have been appropriately given September 8th.

"Monte de sam vicenso" seems to indicate a discovery on January 22d; if so, it doubtless was not named by Vespucci as he sailed southward. The Latin text of Vespucci's description of his third voyage gives the name St. Vincent where the Italian gives, el cavo di scô Augustino. The feast day of St. Augustine is August 28th.

"Stā maria de rabida" is clearly derived from the ancient convent of the Franciscan Friars dedicated to Santa Maria de Rabida, which is located not far from the port of Palos in Andalucia. It seems probable that it was named by some one who accompanied this expedition, to do honor to that convent.

"Cabo Stā croxe" is a point seen and named by Cabral April 23, 1500. It has, by some, been thought to be identical with the cavo di scô Augustino of Vespucci, with the Santa Maria de la Consolacion of Pinzon and with the Rostro hermoso of Diego de Lepe. The point is perhaps identical with the Cabo de Santo Agostinho of to-day.

"Sam michel" is a name which was probably given September 29th. In the *Diario* of Lopes de Sonza (p. 15) we find a reference to a reef in this locality called Arrecife de Sam Miguel.

"Rio de sam Fransesco," a name given to the largest river of the east coast of Brazil, perhaps October 4th. The name is found on the maps of to-day.

The name "vazia baril," perhaps of Vespuccian origin, seems to indicate either the densely wooded banks of a river or a river where much dye-wood was found.

"Rio de perera," literally translated, means pear river. Harrisse suggests that the name given may have been Rio de spera, or river of hope.

Just what mountains are designated by "Serra de stâ maria de gracia" we do not know; perhaps those of the Province of Algoas which run down to the coast. On the Munich-Portuguese map we find in this locality Sancta Maria de Agoodia, which may designate a point where fresh water was obtained.

The origin and meaning of "Rio de caxa" is unknown.

The "porto real," or King's port, is a name which appears on most of the early charts. We still find in this locality Rio Real.

"Rio de sam ieronimo" is perhaps of Vespuccian origin, being given the 20th of September. In this name we seem to have the evidence that Vespucci doubled for a distance on his course.

"Rio de oido" is an unknown name.

"Rio de mezo" is likewise unknown.

The name "Monte fregosso" may be the name for a barren peak. A little to the south on some of the charts we find C. frio, and the name so appears on the charts of today.

The feast of All Saints falls on November 1st. It was doubtless on this day that Vespucci entered the bay to which he gave the name "baie de tuti li santi," or, a baia de todos sanctos, as it appears on Cantino's chart. In the Italian account of his fourth voyage of 1503, where he speaks of it as the bay entered on the preceding expedition, he calls it la badia di tucti e sancti. On Waldseemüller's map of 1507 it appears as Abbatia omniū Sanctorum, a form which was often copied on the charts of later date, and which owes its origin to a mistaken translation. This beautiful bay still bears the name Bahia de Todos os Santos.

"Rio de sam iacomo," or, river of St. Jacob, appears

to be a name given by some other expedition than the one of 1501, to which most of the names after leaving "San Rocho" owe their origin. The name would imply that it had been given July 25th, and this date would not fall in with those before given, besides we know that Vespucci was not on this coast in that month.

"Rio de stō augustino" was probably given by Vespucci, October 21st.

"Rio de stā lena," if a name honoring St. Helena, it must have been given August 16th.

The origin of the "Rio de sexmos" is unknown.

It appears that the name "Rio de vergine" was probably given by Vespucci, October 21, 1501.

The name "Rio de sam ioam" does not appear on any other early chart save on those which clearly borrowed from Canerio. The location and even the spelling suggest that by "ioam" Jorge may be meant. If identical, it was probably named by Cabral, April 24, 1501. Kohl observes that the name Jorge does not appear on any known early chart, but the date of St. George's feast day, April 24th, and the location on the chart not far from Porto Seguro leads me to suggest the identity of "ioam" with Jorge.

"porto seguro," according to Ramusio, is the point from which Cabral sailed on leaving the New World.

The "bareras vermeias" appears to refer to a red bar.

"Rio de brazil" is the name suggested either by a wooded river bank or by the abundance of dye-wood here seen.

"barossa" appears to be the name for a muddy river.

"mont passqual" is the famous Easter Mountain which appears on most of the early charts. It was the first land sighted by Cabral, April 22, 1500, and by him the name was given because the discovery was made near Easter.

The name "Rio de Stā lucia" was probably given by Vespucci, December 13, 1501.

As the name probably given by Vespucci December 21st, we find "Serra de sam tome," or St. Thomas.

In "alapego de sam paullo," a name probably given January 25, 1502, we have the earliest known cartographical reference to a village in the New World. Waldseemüller writes, pagus S. Pauli, in this locality. This may bear some relation to the present São Paulo, capital of the Brazilian Province of São Paulo, which city, however, lies somewhat inland. We know this to be one of the oldest of Brazilian cities, and it is probable that the name originated in the name given by Vespucci to an Indian village.

The "Rio da refens" can not easily be identified.

It appears that the name "baie de reis" was given by Vespucci January 6, 1502, which means, the bay of the Three Kings, or the bay of the Magi.

"pinachullo deteneio" (the mount or summit of the halting) is probably a name of Vespuccian origin, but when given we do not know.

"Rio iordam," or Jordan, is a name frequently met with on the early maps, although Kohl remarks that the early historians mention but one River Jordan in America, and that in Florida. There is now no river in this locality in Brazil which bears this name, but we find that Schöner writes the name in about latitude 35° south on his globe of 1520, and that Ribero seems to give this name to the Rio de la Plata.

"Rio de Stō antonio" was probably given January 7, 1502. On the Ribero map of 1529 the name appears to the south of the entrance to the Rio de la Plata.

"porto de Sam sebastiam" was probably named January

20, 1502, by Vespucci. The name Sebastião, given either to a headland, an island, or a city, frequently appears on the modern map along this coast. The ancient "porto" was probably in the vicinity of the present Ilha São Sebastião.

"porto de Sam vicenso," doubtless given January 22, 1502, may have some connection with the present S. Vicente, which lies not far to the south of Ilha São Sebastião.

"Rio de cananor" marks the southern limit of Canerio's chart and appears to be the point near which Vespucci set sail to the southeast as he started on his homeward voyage. The name closely resembles that of an East Indian city, and it has been thought by some that it was given to this locality indicating a belief that it was not far from the eastern city, or that by this route one passed to that city. Such an explanation is not well founded. La Cananea is a feast day in the church—feria V primae Hebd. Quadrag., and it seems probable the name was given in remembrance of this day. On the maps of to-day we find Cananea, which would appear to be identical with the "Cananor" of Vespucci.

No descriptive legend appears inland in this region, but to the east of the coast the following of some length is inscribed: "auera crus chamada per nome aquall achoui pedaluares cabral fidalgo da cassa del rey de portugall e acile a descobrio in dopor capitanio de XIIII nauos que rey mandana a caliqut ie nel caracho induto poi com esta terra aqual terra secrem esser terra furme em aquel ha muita gente de descricavam nuos omes e mulieres como quas mais os pario sum mais biancos": "The true cross, so called, which was discovered by Pedro Cabral, a gentleman of the household of the King of Portugal; and he discovered it as captain of

thirteen (?) ships, which the King was sending to Calicut, and on this route he found this land, which is thought to be a continent where are many men who possess reason, and men and women, naked as their mothers bore them, only whiter."

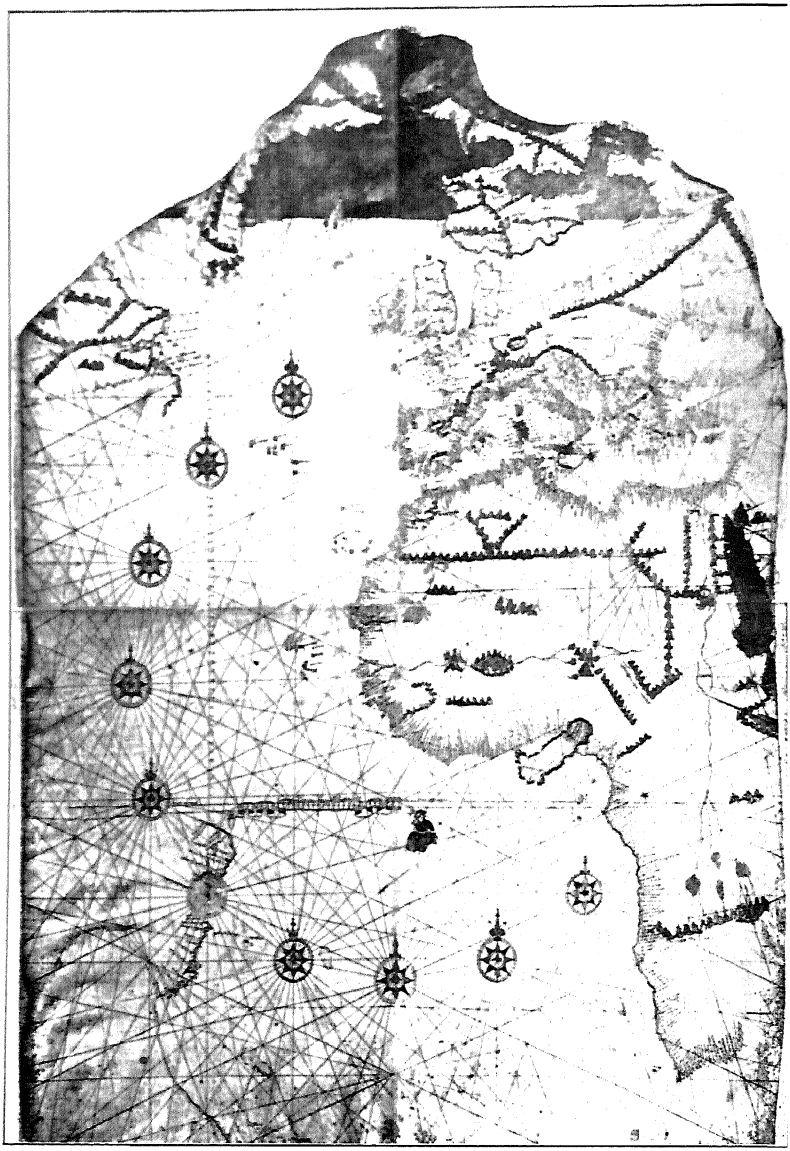


Chart of Pilestrina, circa 1503

AFRICA

IT is not proposed to enter at this time into a detailed consideration of Canerio's Old World; such a consideration is reserved for a later study. The following general description will serve, however, to indicate the importance of the chart for a study of the discoveries of the Portuguese along the coast of Africa and of their search for a water-way to the Indies.

On an examination of the Old World section of the chart, one is first impressed with the near approach to accuracy of the coast-line of Europe, extending from the English Channel southward and embracing the Mediterranean and the Black Sea littorals. Accuracy is decidedly wanting in the north European region, both in coast-outline and in the orthography of the names recorded. As the greater part of the European coast was well known in that day, and was no longer open to new discoveries, a further consideration of this continent, as we find it on Canerio's chart, is omitted.

The outline of Africa is particularly striking; it is almost the Africa of the modern map, exhibiting, however, the common early error of a too great extension of the land mass from west to east. The west coast of this continent had long been the Eldorado of maritime ex-

plorers. While the mediaeval cloister cartographers were sketching this region into their picture maps as one unknown, and, for reasons imaginary, one unknowable, mariners of the Mediterranean lands were feeling their way along the coast from headland to headland, bringing back report in word and in sketch which eventually found place in those remarkable sailing charts, or *portolani,* to which reference has been made. We can not be altogether certain of the distance to which mariners had coasted southward before Prince Henry's day, perhaps much farther than the known written records tell us.

It is generally accepted that for Africa's Atlantic coast Cape Bojador marked the southern limit of geographical knowledge in the early years of the fifteenth century. The island groups—the Madeira, the Azores, and the Canaries —to the west were discovered, or perhaps, one can better say, were rediscovered, before 1400, but one finds difficulties in attempting to assign these rediscoveries to certain definite voyages.

Canerio has marked the claims of the Spanish to the Madeira Islands, with a Spanish flag, and the Portuguese claim to the Azores and also to the Cape Verde Islands with the familiar standard of Portugal.[1]

How Prince Henry the Navigator gathered about him, at Sagres, a coterie of learned men interested in cosmography and maritime enterprise, how the Prince himself gave practical encouragement to African exploration through many years of discouragement, is well known matter of history. When Gil Eannes, one of his early

[1] In the Azores Canerio has inscribed the following names: "as fores," "offaiall," "agraciossa," "opico," ".S. iorge," "alercira," "Samiguell," ".S. maria"; in the Madeira group: "porto Stō," "amadera"; in the Cape Verde group: "apalma," "offerro," "agomera," "tanariffo," "agrā canaria," "lansaroto," "forte ventura."

explorers, in 1434, passed beyond Cape Bojador and reported on his return that the seas of that region were "as easy to sail in as the waters at home," the path to a real Eldorado was opened for Portugal, indeed for all the peoples of Europe interested in maritime exploration and the finding of new lands. Pointedly summarizing the work of that most enterprising Prince, Major has said: "The glory of Prince Henry consists in the conception and persistent prosecution of a great idea, and in what followed therefrom—the coasts of Africa visited; the Cape of Good Hope rounded; the New World disclosed; the sea-way to India, the Moluccas, and China laid open; the globe circumnavigated, and Australia discovered, within one century of continuous and connected exploration. Such were the stupendous results of a great thought, and of indomitable perseverance in spite of twelve years of costly failure and disheartening ridicule." [1]

The successive steps in these Portuguese discoveries around the continent of Africa until the ocean way was found to the Indies of the East are most interestingly marked on Canerio's chart. There is no other known chart which gives so detailed a record.[2] Here we can follow the Portuguese mariners as they passed southward until Bartholomew Dias rounded the Cape, and Vasco da Gama reached the Kingdom of Melinde, thence to sail, under Mohammedan pilotage, across the Indian seas to Calicut. The attempt will not here be made to determine the origin and special significance of the 363 names inscribed from "Sera" (Ceuta) on the northwest coast of Africa to "cabo dangra" (Cape Gardafui) at the entrance of the Gulf of

[1] Major: *Life of Prince Henry the Navigator*, p. xxiii.

[2] Compare Cantino's chart, also a most valuable and interesting one by Pilestrina, Nos. 1 and 3 in Stevenson: *Maps Illustrating Early Discovery and Exploration.*

Aden on the east.[1] The rather, in a general way, it is proposed to indicate how valuable a document is this work of Canerio for history and for historical geography, by noting its record of the more important expeditions, beginning with that of Gil Eannes in 1434, the first of a long line of successful Portuguese explorers, and concluding with that of Vasco da Gama in 1497, or with that of Joao da Nova in 1501.[2]

"Cabo de boiador" as a starting point is properly marked by Canerio. It does not appear that Gil Eannes, who seems to have been the first to round this cape, gave a name to the most southern point which he reached on the coast, and where he gathered "St. Mary's roses," to carry back to Prince Henry as evidence of a successful expedition.[3]

In 1436 Affonso Baldaya[4] reached the Rio d'Ouro,[5] which Canerio calls "Rio de ouer," an enchanting name, indeed, for a sandy stretch of coast, but, once fixed, it remained the name of a region of promise, of promise unfulfilled, however, to the many adventurers who made search for a real fountain of gold.

Canerio also marks the spot "angra de caualez," where the two young horsemen, who were sent ashore by Bal-

[1] The list is given pp. 90–110. A few errors appear in the list given by Fischer and Wieser in connection with their edition of the Waldseemüller maps.

[2] Thirty-nine names are given by Canerio before "Cabo de boiador" is reached, some of which names were doubtless given by Portuguese explorers. As has been stated, there appears to be no record of a discovery on the African coast after 1502. Some of the names may have been given between 1498 and 1502.

[3] *Conquest of Guinea by Gomez Eannes de Azurara,* done into English by Charles Raymond Beazley and Edgar Prestage, 2 Vols. *Hakluyt Society Publications,* 1896, Chap. IX.

[4] Azurara, l. c., Chaps. X, XI.

[5] On the Catalan map of 1375 the boat of Jayme Ferrer, which left Majorca August 10, 1346, "to go to the River of Gold," is sketched to the west of Africa. Just how far he went we do not know. On early explorations, prior to 1400, down the coast of Africa, *vide* Beazley: *Dawn of Modern Geography,* Vol. III, Chap. IV. Much of the literature on the subject is referred to in the foot-notes. *Vide* also Cheyney: *European Background of American History,* Chap. III.

daya to search for natives, did battle with these natives when they had come upon them. "Here," says Beazley, with somewhat startling boldness, "was the first landing of Europeans on the coast of unknown Africa since the days of Carthaginian colonies." These young men, he further adds, "were the first pickets of a great army," and their successful battle with the natives "was a prophecy of the coming conquests of Christian Europe in the New Worlds it was now in search of, in the South and the East and the West."[1]

In 1441 Nuño Tristam,[2] with instructions to sail to the port of Gallee, marked as "p. dagaleo," which had been reached by Baldaya, and to go as far beyond as possible, succeeded in reaching "c. branco." Eager for further adventure, he sailed, in 1443, twenty-five leagues beyond the white headland he had previously visited, entering at length into the Bay of Arguin, "argium" of Canerio. Here he discovered a number of small islands to which he gave names—islands indicated by Canerio, but designated only by the name "ilha." This bay at a later date became a noted halting place for the early Portuguese explorers, and still later for those engaged in trade with the East Indies. A claim advanced for early French exploration along this coast makes this the point where the Normans established their trading depot, to which the name Petit Dieppe was given. Here in 1448 the Portuguese erected a fort.

In 1444 Diniz Dias[3] "left Portugal," says Azurara, "with his company, never lowering sail till he had passed the land of the Moors and arrived in the land of the Blacks." He discovered the mouth of the Senegal, given

[1] Beazley: *Life of Prince Henry the Navigator*, p. 175.

[2] Azurara, l. c., Chaps. XII–XVII.

[3] Azurara, l. c., Chap. XXXI.

by Canerio as "rio decanaga," pushing on until he had reached a great cape to which he gave the name "Cabo verde," the westernmost point of Africa. Canerio seems here to represent a large island, formed by the waters of the Senegal and the Gambia, or "rio decanaga" and "rio de gñbia."

In 1446 Nuño Tristam[1] extended the knowledge of the coast as far as the "Rio Grande." Attempting to enter the estuary of this large river that he might attack the natives and avenge the death of Goncallo de Sintra of the previous year, he lost his own life from the wound of a poisoned arrow. "Up to this era of 1446," says Azurara, "fifty-one caravels had voyaged to these parts, and had added 450 leagues of coast" beyond Cape Bojador to the Portuguese claims.

It was in 1455 that the young Venetian nobleman Alvise Cadamosto,[2] inspired by Prince Henry with a desire for adventure along the African coast, became commander of a caravel of ninety tons, in which he set out from Portugal March 22d. In three days he reached Porto Santo, then touching Madeira and the Canaries, he approached the coast of Africa at Cape Branco. He appears to have gone as far south on this first expedition as the mouth of the Gambia, "rio de gñbia," returning to Portugal the same year. Within a short time we find him prepared for a second voyage. In 1456 he sailed direct to Cape Branco, from which point he turned his course into the open sea, discovering the Cape Verde Islands,[3] to nine of which islands Canerio has given names, and he has indicated that

[1] Azurara, l. c., Chap. LXXXVI.

[2] *The Voyage of Cadamosto, the Venetian, along the west coast of Africa in the years 1455 and 1456,* translated and edited by H. Yule Oldham. *Hakluyt Society Publications.*

[3] Bethencourt: *Conquest of the Canaries. Hakluyt Society Publications.* Edited by Major, 1872.

they are the possessions of Portugal by sketching here the Portuguese flag.

Nuño Tristam had reached the Rio Grande; Cadamosto made here a landing and explored the neighboring country. While not extending his expedition along the African coast much beyond the regions made known by earlier Portuguese navigators, Cadamosto gives us an account of one Pietro di Sintra, who, in 1462, had visited the coast five degrees and more beyond the Rio Grande. To a number of places along this coast names were given, names which still may be found on the modern map, as Cape Verga, Sierra Leone, Cape Santa Anna, Cape del Monte, Cape Mesurado, all of which Canerio inscribes as "C. dauerga," "Serra Liona,"[1] "c. de stā anna," ".c. de monte," "C. mesurado."

We have but little information of Portuguese exploration within the next few years; not, indeed, before 1469 do we find extensive preparations made for an advance. In that year Fernam Gomez, a citizen of Lisbon, leased the west African trade for a period of five years, at one thousand ducats a year, on condition that he should explore each of the five years 300 miles of the coast, starting at Sierra Leone. This point was then believed to mark the southernmost limit which had been visited by Pietro di Sintra, though Cadamosto appears to have thought that a point much further south had been reached. Partially confirming this belief of Cadamosto, we find Canerio has inscribed near latitude 2° north, "rio de pero de sinta."

In 1470 Gomez discovered and named the large island St. Thomas, which Canerio marks with a Portuguese flag.

[1] Canerio marks the interior of this region with a lion rampant. The thunder heard in the mountains was thought to resemble the roar of the lion, hence the name. Canerio has also marked conspicuously the "Cabo de palmas," and in the interior has represented three palm trees.

Though he does not inscribe the name of the island, we find, on the neighboring coast, "Rio Sam tome."

In 1471 Santo Antão, later called Ilha do Principe, was discovered, which Canerio marks but does not name, and in the same year the island first called Formosa, but later Fernando Po. Near this island, on the main land, Canerio has inscribed "cauo fermoso." The last expedition sent out by Gomez reached, it appears, Cape Santa Catarina, which Canerio marks as "C. de catelina," and which is located about two degrees south latitude.

The Portuguese had now firmly established themselves beyond the southern turn in the coast on the east of the Gulf of Guinea. In 1448, as has been said, a fort had been erected at Arguin Bay. In 1482 a second fort was erected at San Jorge da Mina, "Rio de mino," as marked by Canerio, which appears to have been a place of importance for the gold and ivory trade.

In 1484 Diego Cam, one of the greatest of early maritime explorers set out from Portugal with instructions to go beyond Cape Santa Catarina, where Gomez had terminated his five years' contract. He sailed at length into the mouth of a large river, which the natives called Zaire, marked by Canerio as "rio de manicogo," and which later received the name Congo. Here he erected a stone column bearing a cross and the arms of Portugal, with an inscription in Latin, Portuguese, and probably Arabic.[1] Canerio has designated this as "padrom primero." In the earlier years the Portuguese were not in the habit of marking their claims to the coasts discovered. Later, crosses of wood

[1] J. Codine: *Padrons ou Colonnes commémoratives des découvertes portugaises, au sujet de l'étude de M. Alexandre Magno de Castilho,* in *Bulletin de la Société géographique de Paris,* 1869, Tome XVIII, p. 455. By the same author: *Découverte de la côte d'Afrique . . . et padroms plantés sur cette côte par les Portugais pendant les années 1484–1488, ibid.,* 1876, Tome XI, pp. 53 *seq.* Quoted from Gallois.

Munich-Portuguese chart, circa 1503

were erected at intervals for this purpose, or trees of the coast forests were appropriately marked. One such place, it appears, Canerio has indicated in the name "arbo ferrao," near the turn to the southward of the coast of Guinea.

An especial significance indeed attaches to the chart of Canerio by reason of the numerous standards or padrões which he has inscribed, indicating the successive steps in the claims of the Portuguese to the coast of Africa. No less than ten such padrões are drawn from a point considerably north of the Congo, on the west coast, to the Kingdom of Melinde on the east, whence Vasco da Gama set sail for India.

In the year 1485, Cam set out again, accompanied by Martin Behaim,[1] a distinguished mathematician and geographer, best known for his globe of 1492. Revisiting the mouth of the Congo, he sailed southward, making a landing and establishing a claim for Portugal at St. Augustine, marked by Canerio as "C. negro," where we find a padrão has been inscribed. At this point on Behaim's globe we find the interesting legend which tells the manner in which the Portuguese took possession of the country: "Hie wurden gesetzt die säulen des Königs von Portugal anno domini 1485 d. 18 jan." Behaim's date, it may be noted, can hardly be accurate, if we accept the statement that Diego Cam sailed on his second expedition in 1485.

Sailing on southward, Cam made a third landing and a claim for the Portuguese at a point not far from the present Walvisch Bay, which Canerio has marked as "Amgra," nearest point to ".c. de padrom," where a padrão is inscribed. More than two hundred leagues of coast had been claimed by Cam for Portugal when he turned his course homeward. At least three padrões had been set

[1] Ghillany: *Geschichte des Seefahrers Ritter Martin Behaim*, pp. 41–51.

up, and perhaps a fourth one, which is the first one indicated by Canerio on the west coast, at "c. de lopo goncaluez," or the modern Cape Lopez. The erection of this padrão is not referred to by the historians, yet it seems altogether probable that it was placed here by Cam, since he was the first to mark the Portuguese claims in this particular manner.

In 1486, Bartholomew Dias, one of three distinguished brothers, left Portugal to find the Kingdom of Prester John, and to explore as much of the land and the seas beyond that which had been made known in former expeditions as possible. In its results this voyage was vastly more significant than any which had preceded. Passing the farthest point reached by Diego Cam, that is, ".c. de padrom," he followed the coast southward, entering a bay which he called Angra dos Ilheos, which is probably the ".G. de santome" of Canerio. Here he erected a padrão, which, however, is not indicated on our chart. Touching the coast again at a point further southward, which, Barros says, was called Angra das Voltas, the "G. dasuolleas" of Canerio, because of the strong wind against which he was compelled to beat his course. At this point another padrão was erected. Leaving the coast at "Serra de perical," known as Dias, or Pedestal Point, his course led him on southward, and for thirteen days no land was sighted. During this time he unknowingly rounded the Cape and, turning northward, entered a small bay to which he gave the name Angra dos Vaqueiros.[1] Continuing his explorations up the coast, he came to a small island which he

[1] This seems also to be the bay that was called, as given by Canerio, "G. de Sanbras." Ravenstein says: "This is without the shadow of a doubt Mossel Bay. It is also most probable the Bahia de los Vaqueiros of B. Dias, who certainly was here. Barros refers to it as being *now* called S. Braz. Its original name had thus been abandoned in favor of that bestowed by Vasco da Gama." *Vide: Vasco da Gama's First Voyage*, pp. 9–10 n. The

called Santa Cruz, marked by Canerio as "ilcheos da cruz," and still called St. Croix. Rio do Infanta, or "Rode infante," marks the northern limit of his expedition, which is situated twenty-five leagues beyond "ilcheos da cruz." Near this he set up a padrão. His crew refusing to go further, he turned his course homeward. He had touched and named a number of places, among them "cabo donfante," "ponta de pescaria," "cabo dorecifi," in addition to the names mentioned above. All these appear on the modern map as Cape Infanta, Gerieke Point, Cape Recife, St. Croix Island, and Great Fish River. On his homeward journey he followed slowly, it appears, the coast which he had been the first of modern Europeans to explore, intent on finding the most southern point of Africa, for which search had so long been made, and which he had missed on his outward journey. In honor of his ultimate success he erected at "cabo de bona speransa" a padrão, which Canerio has marked.

In July, 1497, Vasco da Gama,[1] as captain major of an expedition made up of four vessels, left the port of Lisbon (Restello) "to make discoveries and go in search of spices." Passing the Canaries, he made the "terra alta" just south of "Cabo de boiador," reaching the "Rio de ouer" within eight days. Thence by way of the Cape Verde Islands he started on his long journey across the southern Atlantic, entering November 7th into St. Helena Bay, marked by Canerio as "G. de stã ellena" near the southern point of Africa. Rounding the cape, he entered

name appears on Pilestrina's chart, and seems to be intended to indicate the same locality as "G. de Sanbras."

[1] *Journal of the First Voyage of Vasco da Gama, 1497–1499, translated* and edited by E. G. Ravenstein. *Hakluyt Society Publications,* 1898, referred to in this text as the *Roteiro. The Three Voyages of Vasco da Gama* from the *Lendas da India of Gaspar Correa,* translated and edited by Hon. Henry F. J. Stanley. *Hakluyt Society Publications,* 1869.

the bay or ".G. de Sanbras," where he set up a pillar with a cross of wood, which, however, were destroyed by the natives before his departure. By Christmas day he reached and named Natal, marked only by Canerio as "Gorffo de natal." According to the *Roteiro,* he had passed up to this point the Ilheos da Cruz, the Ilheos Chaos, the last pillar set up by Dias, and had discovered seventy leagues of coast beyond Dias's furthest point, that is, beyond Rio do Infanta. On the 28th of December he anchored near the coast and "took much fish," which point is marked by Canerio as "porto dapescaria." On January 11th he passed Delagoa Bay, marked by Canerio as "G. de com raios," by which he probably meant Golfo de los Reis, the first name given to this great bay. The *Roteiro* says he anchored at Rio do Cobre, which is just beyond the bay, for the purpose of taking on water. Canerio marks the place as "Rio dagoada." Two weeks later he entered a river which he called Rios dos Bons Signaes, where he tarried for one month, and where he erected a pillar which he called São Raphael after the name of one of his vessels. Canerio writes the name of the river "Rio de bono futaes," near which also appears "padro de sam raffael," although no standard has been here inscribed. Early in March anchor was cast in the bay of Mozambique, where he tarried more than one week. Canerio gives the name "mon canbiqui," and inscribes here a padrão. A short distance from this point he came to some islands near the mainland to which the name Ilha do Acoutado was given, marked by Canerio as "ilhas de acutado." This name, says the *Roteiro,* was given because of the flogging here inflicted upon the Moorish pilot who had given false information. On the morning of April 5th his boat, the *São Raphael,* stranded on a shoal about two leagues from

the land, but was later released. "On the mainland, facing these shoals, there rises a lofty range of mountains, beautiful of aspect. These mountains we called Serras de São Raphael, and we gave the same name to the shoals." Here on the return journey the same vessel was wrecked and burned. Canerio has marked the spot as "baixos de Sam raffael."

The expedition next touched at Mombasa, or "monbacha," "a large city seated upon an eminence washed by the sea, whose ports are entered daily by numerous vessels."

Not far distant lies the city and the Kingdom of Melinde. "Aqui he el rey de mellinde," says Canerio, as if to call particular attention to the region. Here was the most northern point on the east coast of Africa touched by Vasco da Gama. Here he received his Mohammedan pilot, who was to conduct him across the Indian Ocean to Calicut, and here, with the consent of the King, a pillar was erected, which pillar Canerio has appropriately inscribed on his chart.[1] On the night of May 20, 1498, anchor was cast near the city of Calicut and on the following day appropriate greetings were exchanged. One week later, we learn, their vessels were taken for better anchorage to a place called "pandarano," and so given by Canerio.

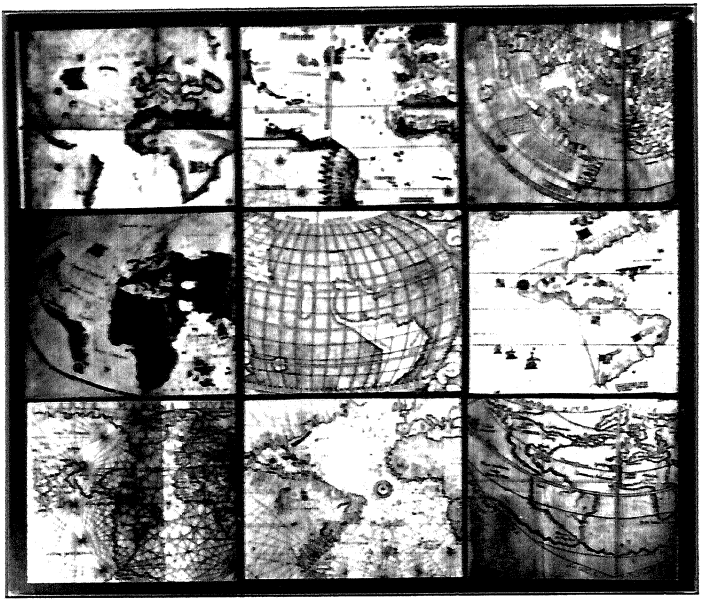
While in the East, Vasco da Gama probably visited Cochin and Cananor, marked by Canerio as "Cochim" and "Cananor," or had some intercourse with their rulers, and he doubtless learned of other countries, islands, and cities still further east. The author of the *Roteiro* intimates as

[1] "It does not appear that any of the padrões erected by Vasco da Gama are now in existence. 'Vasco da Gama's Pillar,' now to be seen at Malindi, close to the town, and at the extremity of a narrow rocky promontory of only a few feet in height, is certainly not the padrão erected by the great navigator, though it probably occupies its site." Ravenstein, l. c., p. 90.

much. Referring to the kingdoms to the south of Calicut, mention is made of such places as Quorongoliz, or "cangallor" of Canerio; of Cael, named by Marco Polo and given by Canerio as "Cail"; of Camatarra, called by Canerio "camotora."

On the voyage homeward a halt was made at the Santa Maria Islands, "about two leagues from land," where a padrão was erected, to which the name Santa Maria was given. Though we do not find this name on Canerio's chart, there are many islands indicated southwest of Calicut to which names have been given. It is altogether probable that these names are local and were taken by Canerio from other than Vasco da Gama's records. None of them, it seems, can be assigned to later Portuguese explorers. His course brought him to other islands, one of which he called Anjediva, but not so named by Canerio. Thence he sailed westward to Melinde and homeward, the greater part of the way along the coast. He entered Lisbon, according to Barros, September 9th, after an absence of about fourteen months. We do not find unquestionable evidence that Canerio has made record of later expeditions to the East than the first voyage of Vasco da Gama.

XI



Typical early maps of the New World

THE SOURCES AND THE INFLUENCE OF CANERIO

NOWHERE on his chart does Canerio explicitly tell us the source or sources of his information. It is reasonable to assume that in part they were the written record, descriptions of expeditions, both to the West and the East. There must indeed have been much of this material, official and unofficial, to which chart-makers had access in that day, but there are few of these records extant which were then available.

As has been stated above, the number of known expeditions to the New World within the first decade after Columbus had shown the way to trans-Atlantic lands were many, not to make mention of the numerous unofficial and clandestine voyages to these western regions, and for nearly a century the Portuguese had been coasting Africa on their way to the East. In the foregoing pages I have also shown that Canerio records many of the names given by successive explorers along the African coast, beginning with the expedition of Gil Eannes of 1434. It is probable that he took all of his names from the written accounts of the several expeditions or from the charts which they brought back to Portugal. We can not be certain that he had his Ptolemy and his Marco Polo from which he might have gathered information, but we can be

certain that to some extent they were second-hand sources. Wherever he exhibits their data on his chart, it is probable that he copied existing maps in which their influence was more or less prominently exhibited. His Persian Gulf is Ptolemaic in shape, and his "CINGIRINA," "COILY," "MVRFVLI," come from Marco Polo, yet it should here be noted that a particularly striking general feature of his chart is its non-Ptolemaic character.

Some of his map sources or his possible sources we can trace, to a few of which reference is here made.

Portolani of the Mediterranean lands were numerous, and it is therefore not difficult to trace the strikingly accurate outlines of this particular section. The African coast below Cape Bojador had been charted before the close of the fourteenth century, as may be seen in Dulcert's portolano of 1339, in the *Atlante Mediceo* of 1351 and in the Catalan map of 1375.

Of the charts extant which seem to have been the outcome of Prince Henry's endeavors, Bianco's map of 1448 is the oldest, although Azurara says that the Portuguese seamen began to draw charts of the region beyond Cape Bojador in 1434. This map of Bianco's appears to have been one which greatly influenced the character of African coast maps for a considerable time, a fact which may be seen in the map of Benincasa of 1467, and in his Atlas of 1471.

If Canerio did not have access to the Fra Mauro map, he might well have had access to the same sources used by that Venetian cartographer. Fra Mauro says, in an inscription on his chart off the coast of Africa, that the Portuguese had given many new names to bays, harbors, and rivers along this coast, and that they had made many new charts, of which not a few were in his possession. For

the east coast of Africa this same Fra Mauro map, though inaccurate, could have been of service.

It was not necessary, however, for Canerio to turn to sources so remote. Bartholomew Dias had rounded the Cape of Good Hope in 1487, and had charted the east coast of Africa as far as Rio do Infante. In the map of Henricus Martellus Germanus, 1490 (?), we have one which is almost contemporaneous with that expedition, and which, we may say, was based in part on the same. With scarcely an exception, Canerio records the names given on this map, but adds many to the list.

None of Vasco da Gama's charts are extant. The map nearest in date to the year of his famous voyage is the Spanish chart of Juan de la Cosa, compiled in 1500. It is not a chart of great value for a study of Portuguese exploration along the east coast of Africa, although it clearly records that that continent had been circumnavigated and its complete outline charted. Juan de la Cosa was a Spanish pilot and cosmographer and recorded Spanish discoveries with greater care than discoveries made by the Portuguese. Not one of his names on the east African coast can be traced to Vasco da Gama, nor can one identify with certainty any of the names he inscribes in this section.

Canerio greatly improves on Juan de la Cosa in his outline of India, but probably copied from him the fabulous islands he has sketched to the west of Africa in the south Atlantic.[1]

There are at least four other known charts which appear to have been drawn at about the same time as was Canerio's. These are the charts known as the Cantino, the Munich-Portuguese, the King, and the Pilestrina. If they may not be classed here as sources, they at least serve to

[1] .y. Tebas, iste insule chamada secusam.

impress the fact that there was much cartographical material extant in Canerio's day which could be utilized in the construction of world charts. For Africa and the Indian regions Cantino's chart exhibits the same striking resemblance to that of Canerio that it does in the New World. Further reference to that cartographical masterpiece may be found below.

On the Munich-Portuguese chart fewer names appear than are given by Canerio; it is less accurate in the delineation of Africa; it omits Madagascar; reproduces the Ptolemaic Persian Gulf; its new India closely resembles that of Canerio, but it omits entirely the region beyond.

The King or Hamy chart contains very much that we find given by Canerio, but breaks less sharply with Ptolemaic traditions. Its double equator is a striking feature in which the old or Ptolemaic equator is retained for east Africa, while from west Africa, four degrees further south, a new equator is made to extend. Very many of the new Portuguese names are given along the west and east African coasts. The Ptolemaic Indian Ocean is retained, and the author appeared to turn with some hesitation to the new India, for he does not break entirely with the past.

In the Pilestrina chart, which represents the African coast only to that point reached by Bartholomew Dias, Rio do Infante, we seem to have the reproduction of an earlier chart. It is one which has been much overlooked as a source for the study of Portuguese African exploration. Its rich geographic nomenclature is equaled only by Canerio's and is not surpassed on any chart of the century, so far as the African coast is represented. The resemblance to Canerio's Africa is striking, but it appears to have been the work of one who had a better knowledge of the Portuguese language than did Canerio. Save for its representa-

tion of the Portuguese discoveries in the New World, and these alone are given in that region, there would be reason for assigning it to the last decade of the fifteenth century. For Africa, we are safe in saying that Pilestrina's sources, if indeed he himself is not a source for our chart, were those of Cantino and Canerio.

For the New World section of Canerio's chart we can be measurably certain of many of his sources. To a considerable number of these sources reference has already been made in the preceding pages. Yet numerous as the accounts may have been of expeditions to the West, detailed as many of the narratives were which navigators wrote on their return from discoveries in the New World, none of these original accounts which must have been available for Canerio, are now known, except the narratives of Columbus. Nor are any of the maps extant which were drawn *de visu* by captains, pilots, or cosmographers who accompanied the several expeditions. All of our known early maps are compiled maps, and there is no reason for thinking Canerio's chart is an exception. The references, however, are numerous to maps which were in existence before Canerio completed his work. There must have been a lively activity on the part of map-makers who found occupation in the ports of Spain and Portugal, beginning shortly after the discovery of the lands in the West. To a few of the allusions to early maps which were in existence when Canerio drew his chart reference is here made.

It appears that August 4, 1493, Queen Isabella made request that Columbus should send to her some nautical charts before setting out on his second voyage, and September 5th of the same year the request was repeated. "La carta que vos rogamos que nos enviásedes antes de vuestra partida, nos enviad luego muy complida, y escritos con ella

los nombres":[1] "The map which we asked you to send to us before your departure, forward it immediately, quite complete and with the names written thereon." "It is necessary," said the Queen, "that we should know the degrees of the route over which you have sailed." She added that, in case he did not wish the information imparted to any one, he should say so.

In Michael de Cuneo's interesting and important letter we read: "We saw many islands, which his Lordship the Admiral ordered to be inscribed on the map distinctly."[2]

In 1498, Columbus, on his third voyage, touched the mainland of South America, that is, Paria. The region explored was charted, as it appears, for we find that Columbus wrote the King and Queen: "I shall send to your Highnesses the description and the picture of the country."[3] Hojeda testified that he had seen the figure which the said Admiral at that time had sent to Castile to the King and Queen of that which he had discovered.[4]

Bernardo de Ibarra writes that Niño and Hojeda and others who went to the same parts, that is to Paria, used the Columbus chart or charts,[5] and Morales adds that he had seen the chart which the Admiral had made of Paria, and expressed the belief that all had sailed by the same.

One Pedro de Ledesma testified before the Spanish Fiscal that he saw Pinzon return and bring with him a map of all he had discovered, and that this map was inserted in the *Padron* of his Highness, and further that

[1] Navarrete: *Coleccion*, Vol. II, Doc. LXXI.

[2] *Vide supra*, p. 29.

[3] Navarrete: *Coleccion*, Vol. I, p. 264.

[4] Navarrete l. c., Vol. III, p. 539.

[5] Navarrete, l. c., Vol. III, pp. 587, 588.

those who had been with Diego de Lepe brought with them a map of their discoveries.[1]

Peter Martyr tells us of a map owned by Bishop Fonseca and "drawen by the Portugales, whereunto Americus Vesputius is sayde to have put to his hande, beinge a man moste experte in this facultie and a Florentyne borne." [2] It is probable that this was a map made by Vespucci on his return from his so-called third voyage.

When Angelo Trivigiano, Secretary of the Venetian Legation in Spain, visited Columbus at Granada, in the summer of 1501, he found there only one map of Columbus and nobody in the place competent to copy it.[3] On the request of the secretary we learn that Columbus' own map was sent to Palos, to be copied by a pilot of that city.

In 1500 Columbus's pilot, Juan de la Cosa, drew that oldest extant map of the New World which has been mentioned in the reference to the sources for Africa and the East beyond. This map was made at the Port of Santa Maria (near Cadiz), says a legend under the vignette of St. Christopher on the left of the map. It is a remarkably suggestive document, representing the entire coast of North America to about latitude 70° as a continuous line, and the coast of South America to a short distance beyond Cape St. Augustine. Its latest datum refers to the discovery of Cabral, news of which discovery reached Portugal in the summer of 1500. But Canerio's nomenclature can not be called that of Juan de la Cosa, since they have very few names in common in this New World section. This fact seems to suggest the existence in that

[1] Harrisse: *Discovery of North America*, p. 416.

[2] Peter Martyr: *Decades*, II, Lib. x.

[3] Las Casas: *Historia*, Lib. I, Cap. III. "Only one map of Columbus is here, and there is no one in this place who is competent to copy it."

day of many charts drawn by pilots, captains, and cartographers who participated in western discovery and who sketched the coasts which they visited.

Cantino's chart, if not a source, resembles in a most striking manner the chart of Canerio. There appears some evidence, as in the coast-line of South America, that the former is the older map, yet we are safe in saying that the difference in age is but slight. It is unscientific to attempt to make the former stand as a separate and earlier type, as Harrisse has done, merely because the coast-line of North America, or of the north continental area, does not extend so far southward as on Canerio's chart. In what remains of the Cantino chart since its mutilation there is a striking agreement with Canerio, except perhaps in a few minor details, as for instance, in the spelling of some of the names and the irregularities of the coast-line. We, indeed, do not know that Cantino did not mark the degrees of latitude just as did Canerio, observing that they so closely resemble even up to "lago del lodro," near which point, by the mutilation, Cantino's coast is made to terminate. We know something of the circumstances under which Cantino produced his chart and it is not improbable that Canerio's work had a similar origin. Duke Hercules d'Este of Ferrara, had expressed to Cantino, his envoy at the Court of Portugal, a desire to have a map of the latest trans-oceanic discoveries made by the Portuguese and Spanish. Such a map Cantino obtained from a cartographer living in Lisbon, for which he paid twelve gold ducats. From the data we have concerning the origin and disposition of that map we may reasonably infer that it was a comparatively easy matter to get more or less detailed accounts of the discoveries in the West, though not all such accounts were wholly reliable.

Wherein the Cantino and the Canerio charts agree, as well as the points wherein they differ, may be gathered from the comparative tables which appear at the conclusion of this account.

Although it does not appear that Canerio drew from either the Munich-Portuguese, the King, or the Pilestrina charts for his New World, to which charts reference has been made in the consideration of the sources for the African section of his chart, they at least show us some interesting contemporaneous variations. Whatever may be said of the respective merits of the charts known to date, that is, 1502, Canerio's is unsurpassed in the richness of its nomenclature, and for this as for other reasons must be considered the most important map known which was constructed in the first decade after the discovery of the New World.

It is not difficult to trace the influence, direct and indirect, of Canerio's chart on the early sixteenth-century cartography of the New World, or at least to trace the influence of a chart of exactly this type. It has been suggested, and not without reason, that it was Canerio's work which came into the hands of Duke René of Lorraine with the letters of Vespucci which Waldseemüller inserted as an appendix to his *Cosmographiae Introductio.* Lud in his little work, the *Speculum,* says that these letters were sent from Portugal to the Most Illustrious Duke René in the French language. We can not with certainty attribute the sending of the letters and the chart to Vespucci himself, yet recent discoveries give strong support to the suggestion that he was responsible for them.

A comparison of the Waldseemüller maps with that of Canerio suggests immediately the importance of the latter

as a source. The evidence is particularly striking in the case of the nomenclature. While in the contour features it is not especially easy to compare Waldseemüller's chart of 1507 with that of Canerio, because of the difference in projection, a comparison of the Strasburg Ptolemy map of 1513 as well as the Waldseemüller map of 1516 with Canerio's can be made with but little difficulty, and such a comparison proves to be exceedingly interesting.

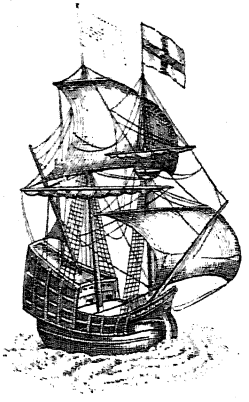
Though the resemblance in certain of the more important features is sufficient to establish relationship, it is particularly interesting to note the resemblance in certain lesser important features. The crescent-like figure which appears at the intersection of the rhumb lines on the extreme left of Canerio's chart is also given by Waldseemüller. The arrangement of the system of compass roses is identical even to the placing of a large central rose in the heart of Africa. The islands Canerio has placed in the large gulf to the west of "insulla issabella" all reappear with almost the identical outlines.

Since the finding of the long-lost Waldseemüller maps by Professor Fischer we are able to trace the influence of that great German cartographer through a long line of important world maps of the sixteenth century. As there can be little doubt that Canerio was his teacher, through his chart of 1502, it is fitting at this time to honor that Italian chart-maker with this carefully executed reproduction of his great work.

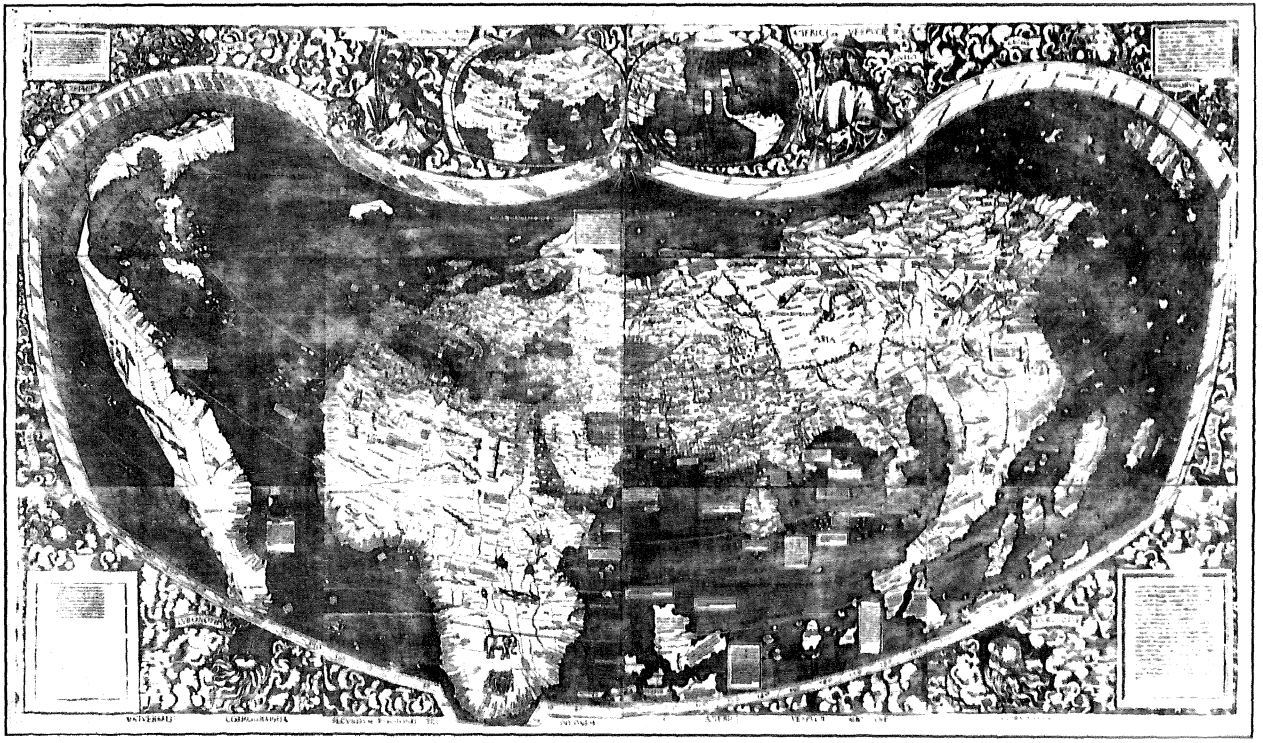
In the foregoing pages as in those which follow great care has been exercised to avoid error; in particular has the attempt been made to give each name as it was written by Canerio on his chart or by the other map-makers whose

works have been quoted, however wide may have been the departure from a correct spelling. Because of the difficulty in determining the meaning of certain words which are to be found in Canerio's legends, the translations, in some instances, must be taken as approximate, if not entirely conjectural.

"*Cartagena* was of the mind," writes Cotton Mather, "that unto those *Three Things* which the Ancients held Impossible, there should be added this *Fourth,* to find a Book printed without *Errata's.* It seems, the Hands of *Briareus,* and the Eyes of *Argus,* will not prevent them."



CANTINO	CANERIO	WALDSEEMÜLLER 1507	WALDSEEMÜLLER 1516
Costa del mar uciano	costa del mar vsiano	Costa demari vñano	Costa delmar vsiano
Cabo d. licōtir	cabo dellicontir	C. deli contir	Cabo dellicontir
Canfure	caninor	Camnor	Caninor
Cabo de bōa ventura	cabo de bona uentura	Caput de bona ventura	Cabo de bona ventura
Coasta alta	costa alta	Costa alta	Costa alta
lago luncor	lago luncor	lagoluncos	Lago luncor
las cabras	lacabras	lacabras	Lacabras
Rio delos largartos	Rio delos largactos	Rio de los largactos	Rio de los largactos
Cabo Santo	cabo santo	C. sanctum	Cabo santo
Rio de las almadias	Rio de las almadias	Rio dela calma dias	Rio delas almadias
pūta Roixa	ponta roixa	ponta baixa	ponta roixa
C: delgato	C. delgato	C. delago	C. delgato
Rio de dō diego	rio de do diego	Rio de dodiego	Riodedodiego
coruejo	comello	co mello	comello
C.·. do fim do abull	Cauo doffim de abull	Cauo doffim de abul	Cauo doffim de abul
elgolfo baxo	el gofo bazo		elgofobazo
c.·. lurcar	cauo luicar	rano lincar	Cabolincar
C.·. do mortinbo	Cauo de mortinco	ca no de mortinaq	Cauodemortinco
G. do lurcor	Gorffo do lineor	.G. de imeor	Gorffo doliueor
C.·. arlear	cabo ailear	.C. alear	Cabo arlear
Rio do Corno	Rio de como	Rio de como	Rio decomo



Waldseemüller world map, 1507

Rio de las palmas	Rio de laparmas lago del lodro	Rio de larparmas lago dellodro TERRA VLTERI9 INCOGNITA PARIAS	Rio delaparmas Lago dellodro TERRA DE CUBA. ASIE PARTIS
Ilha yssabella:	insulla issabella	ISABELLA INSVLA	
habueca	babueca	babueca	Babueca
Somento	somēto	sarmento	Somento
ilha Santa	.y. Sanra	Sanra	.y. Sanra
haty	cary	cariji	Cary
ilha managua	.y. magua^{na}	magna	.y. magnana
macabixa	macubiza	matubiza	macubiza
Janucanata	ianucanaca	ianucanaca	ianicanaca
ilha de Jucayo	.y. de incaio	incaio	.y. deincaio
ilha de cayceniem	.y. de carcenie		.y. decarcenie
baixos deabre os olhos	baixos de abreos olhos		baixos deabreos olhos
tortuga	Tartuga	tartaga	Tartuga
c. de Samana	cabo de samana	C. de samana	Cabo desamana
ilha espanholla	insulla spagnolla	SPAGNOLLA INSVLA	SPAGNOLLA
boriquem	boriquem	boriquen	Boriquen INSULE CANBALOR SIVE ANTIGLIE
Las omze mjll virgines	laonizes mil virgines	laouizes mil. virginum	laonizes mil virgines
ilha de guadalupe	.y. de gada lupo	de gada lupo	.y. degadalupo

CANTINO	CANERIO	WALDSEEMÜLLER 1507	WALDSEEMÜLLER 1516
ilha desejada	.y. de sorana	de sorana	.y. de sorana
todos Santos	to do santos	to do Santos	Todo santos
marigalante	marigalante	marigalante	marigalanto
			S. Cristoferi
			mariarotuda
			.S. Crucis
Jamaica	iamaiqua	iamaiaua	iamaiqua
tamarique	Tamarique		.y. riqua
ilha Riqua	.y. Riqua	riqua	Tamarique
			lixleo
			Terrasicca
	Arcay	Arcaÿ	Arcay
bacoya	bacoia	batoia	Baccia
			Aldea verecida
			Monte rotunda
Ilha do gigante	insula de gigantes	insula de gigantib9	.y. degigantes
Ilha do brasill	.y. do brasil	de brasil	.y. do prasil
golfo del vuficisno	Gorffo de linferno	.G. de inferno	Gorffo delinferno
Costa de gente braua	Costa de gente braua	Costa de gẽte braua	Costa de gente praua
Rio de fonsoca	Rio de fonsoa		Rio de fonsoa
montanhis albissimas	Montagna altisimas	montana altissima	montagna altisimas
Cabo de las perlas	Cabo de las perlas	Cabo de las plas	Cabo de las perlas
Ilha della Rapossa	.y. de larapossa	de larapossa	
vº tros testigos			CVRTANA

boca del diago			Rio delarena
			.G. deparias
			TERRA PARIAS
Las gayas	las gaias	las gaias	las gaias
ilha delos canjbales	.y. de los canbales	Cambales	.y. delas canibales
la pnta dela galera	la ponta delagalera	la ponta delagalera	laponta delagaleia
Cabo deseado	Cabo deseado	Caput deseado	.C. deseado
tira de pa---			Terra deparias
golfo de las perlas			Rio deflagranza
			Rio flagranza
			MARINA TANBVL
			Riodeforoseco
			riodelescuas
Rio grande	Rio grande	Rio grande	Rio grande
todo este mar he de agna doçe	Todo esto mar he de agoa dolce	Totum istud mare est de aqua dulce	Totum istud mare est de aqua dulci
golfo fremosso	Gorffo fremoso	Gorffo fremoso	Gorffo fremoso
Canibalas	Canibales	Canibales	Canibales
			.p. dcarena
			Serra de .S. maria
			TERRA CANIBALOr
			TERRA NOVA
	Sam Rocho	.S. Rochi	.S. Rocho
Cabo de Sã Jorge			
	Santa maria de gracia	.S. maria de gracia	.S. maria de

CANTINO	CANERIO	WALDSEEMÜLLER 1507	WALDSEEMÜLLER 1516
Cabo de Sam Jorge			
	Monte de sam vicenso	mons .S. vincẽcij	monte de S. Vincenso
anaresma			
	Stã maria de rabida	.S. mariaderabida	.S. maria de Rabida
	Cabo Stã croxe	Caput Sancte crucis	Caput .S. Crucis
san miquel	Sam michel	Sancti michaelis	S. Michael
		AMERICA	
Rio de Sã franco	Rio de sam Francesco	Rio de .S. francisto	Rio de .S. frãcisco
	vazia baril	vazia baril	vazia baril
	Rio de perera	Rio deperera	Rio de perera
	Serra de stã maria de gracia	Serra de .S. maria de gracia	Serra de .S. maria de gratia
	Rio de caxa	Rio de casa	Rio de casa
	porto real	porto real	Rio de .S. iherõimo
	Rio de sam ieronimo	Rio .S. iheronimi	porto Real
	Rio de oido	Rio de odio	Riodoido
	Rio de mezo	Riodomezo	Riodemezo
	Monte fregosso	Monte fregoso	Monte fregoso
Abaia de todos Sanctos	baie de tuti li santi	Abbatia omniũ Sanctorum	Abbatia om̃im Sc̃tor̃
	Rio de sam iacomo	Rio .S. iacobi	Rio de .S. iacobo
	Rio de stõ agustino	Rio .S. augustini	Rio de .S. Augustino
	Rio de stã lena	Rio de .S. lucia	Rio de .S. lena
	Rio de sexmos		Rio de sexmos
	Rio de vergine	Rio de virgine	Rio devirgine

	Rio de sam ioam	Rio de .S. ioham	Rio de .S. ioam
porto seguro	porto seguro	porto seguro	porto seguro
	bareras vermeias	bareras vermega	bareras vermeias
Rio de brasil	Rio de brazil	Rio debrazil	Rio de brazil
	barossa	barossa	barossa
a vera cruz ✠			
	mont passqual	Mont pasqual	Mont pasqual
	Rio de stã lucia	Rio de .S. lucia	Rio de .S. lucia
			BRASILIA SIVE TERRA PAPAGALLI
	Serra de sam tome	Serra .S. thome	Serra de .S. thome
	Alapego de sam paullo	pagus .S. pauli	Alape - - de .S. paulo
	Rio de refens	Rio da refens	Rio da refens
Cabo de Sc̃ta Marta			
	baie de reis	baie dereis	baie derees
	pinachullo detencio	pinachullo dententio	pinachullo detentio
	Rio iordam	Rioiordam	Rioiordam
	Rio de Stō antonio	Rio de .S. Anthomo	Rio de .S. Anthonio
	porto de Sam sebastiam	portus .S. sebastiani	porto de .S. sebastiã
	porto de Sam vicenso	portus .S. vincēti	porto de vincēcio
	Rio de cananor	Rio decananorū	Rio decananoꝝ

COMPARATIVE TABLE OF NAMES ON THE COAST OF AFRICA

PILESTRINA	CANTINO	CANERIO	WALDSEEMÜLLER 1516
	Septa	Sera	Sera
		alegeri	alcacera
arzilla	arzilla	arzilla	arzilla
laradr	laracla	larace	larace
	caltagunas		
	mamora		
	alucora		
calhe	calhe		
	praia	praia	
Sancta	Sancta		
fadalla	fadala	far	far
calleanasi	anaffe	anaste	
C. camello	C.·. camello	camelle	
	praia		
		almacor	
estesor	estosor	estosor	
azamor	azamor	aramor	
marzagrã	marzagam	marzasem	
c. carnoero		c. carnoero	
casa do cauallero	C: sa do cabalere		
	C.·.		C. deca

c. decantin	C:. de castrali	.C. de canr̄i	
cafim	caffim	caffim	Saffi
Rio de sañcs	Rio do Sauc9	rio de saneus	Rio de Janens
mogador	mo dar	mogador	Mogador
	C:. delfin		
cabo de sem	Sar ...	C. de sem	guzuna
tafatala A (a--c99)	zabatana	Taffatana	tasatana
taffola		Tafolla	Tafalla
zabedeque		zabedoque	
cabo de guer	c.·. degutiue	c. de guer	
angra	saguvivarba		
	neça	mecha	mecha
	ag		
agulhom	agalulhom		
anganzim		Alganzin	
	Samotana	Samotana	Samoglua
c. ge gilom	c.·. degillim	.C. de gillom	C: de gillo
Suana	suaña	Suana	sitana
vuelza	vulteza	vulleza	buleza
cabo de nom	c.·. de nom	.C. de nom	C: de non
monste	monjsta	monste	Monste
ofim	offim	ofim	offim
	anissobar	ansolim	
praia		praia	praia
alberne	albane	alberne	alberne

PILESTRINA	CANTINO	CANERIO	WALDSEEMÜLLER 1516
	montas		
marpegarne (?)	marpequenha	marpeq̄ua	marpequa
praia	praia	praia	praia
	furna		
c. dalto	c: dalto	c. dalto	C: alto
		ono	ono
Rio seco	Rio Seco	Rio secho	Rio secho
cabo do boiador	c.·. de boxador	Cabo de boiador	C: de bozador
pena granda	pena grande	pena grande	pena grande
trã alta	terra alta	terra alta	terra alta
Sette cabo	Sete cnbos	setta caui	sette can
	G: d9 Ruib9		
trrã branca		terra bianca	Terra biãca
u		barciras	
angra d9 Ruin9		ang^{a} desinq	Angraderiu9
p. de medom	puta domedom	p. de medom	P: demedom
Sette montas	moutas	Setta montes	
cavo do medom	medom	c. domedom	
angram do cavallo	G. d9 caball9	angra de caualez	Angra de canalie
ollarcedo	ollarcdo	lagedo	Langedo
Rio de ouro	Rio douro	Rio de ouer	Rio de oner
trrã baixa	terra baixa	Terra baixa	Terra baixa
angra de G^{o} de sint^{a}	G.·. de gonçalo de Sint̄	ang^{a} de S^{o} desuiro	
trrã darca	terra darca		

	praia	praia	praia
medons	medons	medons	Medons
agra desam cibrao	G.·. dc Samabuam	ang^{a} de S. cibrao	Angra de S. Cipriano
cabo das barbas	c.·. das barbas	.c. das barbas	C: das barbas
	Ro9 do		
c - -car			
p. dagalee		.p. dagaleo	p: dagalee
c. branco	C.·. branco	c. branco	C: bianco
-rgrafaves	ilha d9 cocuos	ilha decorr	
arguim	arguim	Argium	Arsumi
		ilha	
p. do Resgati	pta do Rescate	porto de9	p: de9
ilha branco	ilha bianca		
Rio de samiohn	Rio de sam Juam	Rio	Rio
punta detosia	punta detoffia	porto deto	P: deto
ang d. santanna	G: de santana		
medons	medondons	fuam medom	fuammedom
Settemontes	Sete montes	Sette montes	Sette mõtes
cavo darca	arnoredo	Cabo darcha	C: darcha
ante roto	auterrote	ante rote	
tarem	tarem	tarem	
praia	praia	praia	
montas	montas	montas	
araoredo	alagoa		
	palma Soca	palma seca	palma seca

PILESTRINA	CANTINO	CANERIO	WALDSEEMÜLLER 1516
Rio decanaga	Cantaga	rio decanaga	Rio de Senega
challom	chollam	challo	Challo
rudumel	palmar		
c. de		angra dalmadias	Angra dalmadias
cabo de masta	C.·. verde	Cabo verde	C. Viride
	c.·. d9 mast9		
		tezegaiqui	Lezegaigm
barbacuo	barbatis	barbacuo	barbataio
borsallo	bor sale	borsalo	boricao
rio de gābia	Ro de gāboa	rio de gñbia	Rio de gambea
c. de santa maria	c.·. destām	c. de stā m^{a}	C. de .S. Maria
Rio de sam pedro	Rio de stā crara	Rio de sta clara	Rio de .S. clara
Rio de casa mansa	Rio das ostras	casa mansa	Casamansa
	Rio de S: pedro		
	Cabo Roxo	C. roix	C. Rubeum
	fallulo		
Rio de sam domingo	Rio de Sam domingo	rio de S. domingo	Rio de .S. dominico
estero de caterina	Rio das estirras	estero de caterina	Estero de Caterina
	qormanso		
monpacham	mompacham		
Rio grande	Rio grande	Rio grande	Rio grāde
	ferim		
buguba	bugube	buguba	buguba
biseqm^{a}	bissagm		

osnalas		osnalus	os noilus
	magunda		
Rio de mino	Rio demino	Rio de mino	Rio de mino
palmar		palmar	palmar
c. dauerga	c.·. de b'ga	C. dauerga	
Rio do pichell	Rio da piebell	rio don ebel	Rio donebel
Rio d. farun	c.·. de Sagros	rio das pedras	Rio da petras
Rio d. mapam	Rio da mepā	mapam	mapam
Rio de arestall	Rio das os bo . . .	rio areristal	Rio areristal
Rio d. tamara	Rio do ama	rio de tamnea	Rio de banmea
Rio d. cassa	Rio de castro		
maipula	mjampur	rio de mapulla	Rio de mapulla
serra leona	Serra ba	Serra liona	Serra liona
Rio dasserra	Rio do serra	rio da sera	
	Rio do Rona		
p. dascanboas		p. dacanboa	P: de Canboa
		roixa	Rubea
Rio do junco	Rio do Junca	Rio dominco	Rio dominico
Rio dasass palmas	Rio das palmas		
cabo d. santana	Cabo de santana	c. de stā anna	C: de .S. Anna
	palmar	arnoredo	arnoredo
Rio do das galinhas	Rio das gall	rio das gallinas	Rio das gallinas
aruorca	arnorcco	palmar	
cavo do monte	C.·. do monte	.C. de monte	C: de monte
		Terra dego	terra dego

PILESTRINA	CANTINO	CANERIO	WALDSEEMÜLLER 1516
cavo (de Sagres)	Rio dagooda	rio dagoas	
mesurado	c.·. mesurado	.C. mesurato	C: mensurato
Rio de sam paulo	Rio de San pan	Rio de sam paullo	
Rio	Rio do Janco	rio domico	
Rio dominco			
aruoredo	alaia	Aruoredo	Arnoredo
Rio d9 cest9	Rio d9 cestos	rio de cest9	Rio decestus
cabo das baixas	c.·. das baixas	c. danaixas	C: danaixas
ilha da palma	ilha da palma	ilha dapalmas	
Rio do mden	ilheo da gad---	rio domidem	Rio domidem
	Rio d9 Jenobeses		
Rio de sam b^{te}	Rio de scao biante	Rio de S. ber	Rio de .S. ber
allaia	allaia	allaia	allaia
		plaia	plaia
cabo d. sam cremēt		c. de S. cremēto	C. de .S. Clemēto
os curaes	os curaes	os curaes	os caraes
	Rio do ilheo		
cabo de palmas (Santan)	c.·. das palmas	Cabo de palmas	C: de palmas
Rio do ilho	aldea de portugall	Rio serama	Rio serama
	ilheo dogoticulodem		
montes	mōtes	montancha	
aruoredo	pra das almandre	p. da almadias	p: daalmadias
pō da de santingo		ponta de S. tiago	p: denago
Rio de santander	Rio de stroban	Rio de S. andre	Rio de .S. Andrea

o paull	o paull	opaul	opaul
baireiras	ptã das aluia		
	modeonall	ruoredo	
Rio das barbas	Rio das ba	rodas barbas	rodas barbas
allagoa	allagoa	allagoa	alagoa
aldea de lag9	aldea de lago	aldea de lago	aldea de lago
	aldea bellago		
o palmar		palmar	palmar
Rio demeo	Rio demeo	Rio demeo	rio demeo
omedõ	o modom	omedom	
a comiada	a comjada	acomiada	aconnada
Rio d. fuero	Rio de fuero	rio de fuero	rio de fuero
praia	praia de mato	praia de mato	praia de matto
	terra preta		
Serra de santa polonio	Serra de Stapollona	Serra de stã pollonia	Serra de .S. Appalonie
cabo de tres pontas	C.·. das tres potas	C. de tres pontas	C: de tres pontas
atalaia	atolaia	atallaia	atallaia
anda	pta delgada	anda	anda
Rio de sam iohâ	Rio de Samsua	rio	
castell da mina	castello damina	castelo	Castello
cabo corco	c.·. corco	cauo corso	C. Corso
aldea dapĩa	aldea da pinia	aldeada	Aldeada
tucares		tucare	
	monte aguda	monte	m caxe
c. das R. d. s.	c.·. das Redas	.c. darnore	C: damon

PILESTRINA	CANTINO	CANERIO	WALDSEEMÜLLER 1516
monte Redondo	mõte Redoda		
palmar	palmar	p. almadea	palmadea
aldas	aldea da barco		
	o palheiro	opa	Opa
Rio dauolta	Rio do volta	rio deuolta	Rio danolta
amonto daraposa	montas	amonta daraposa	amonta daraposa
c.d. sam paullo	C.·. de S.: pa	c. do san paulo	C. de .S. paulo
amonta do gato	amonta do gato	amonta do gato	amõta dogato
	novemontas	c. none montas	noue montas
cabo domonte	quatra	c. de mõte	.C. de monte
aruor da cruz		aruor da crux	aruor da crux
	palmos		
trrã das gazellas		tiran das gazellas	tami das gazellas
	terra alta		
duas montas		duas montas	duas montas
trrã baixa		terra baixa	Terra baixa
praia		plaia	plaia
	alba fu		
	villalbo		
alba fera		arbo ferrao	
Rio dollago	Rio lago	Rio dolago	Rio de lago
amonto		Anata	Anata
aldea das almadias	aldea	aldea das almadias	Aldea das almadias
Rio das estevas	Rio das estio	Rio das astreras	Rio das asteras

ar---red	aldea d9 buso		
palmar	aldea do palmas	palmar	palmar
alda de bufare			
	Rio primero	rio primero	Rio primero
	Rio Segudo		
	Rio do gato		
Rio fremoso	Rio fremoso	Rio fremoso	Rio fremoso
Rio de escanci	Ro dacscaib9	Rio de escansq	Rio de escans9
Rio de forcado	Rio di forad9	rio de forcado	rio de forrato
Rio de ramos	Rº do ramos	Rio de ramos	Rio de ramos
	Rº do sam Jorge	rio de Sa miguel	Rio de .S. michael
cabo fremoso	c.·. fremoso	cauo fermoso	C: fermoso
Rio de sam bartolomeo	Rio do sam bertolomeo	Rio de .S. bertolomeo	rio de .S. bartholomeo
	Rio de stilufonio		
Rio de sam miguel		Rio de S. moguel	rio de .S. michael
Rio reall	Rº Reall	Rio reall	Rio real
Rio das aimboas	Rio do carmo	rio das ganboa	rio das ganboas
Rio d. sam domingo	Rio de Sam domingo	rio de S. domīgo	
angra	Rio da pariz	rio de pero de sinta	rio de petro definta
		ilhas verdes	insule virides
G. del Rey	G. del Rey	Gorffo del rey	G: del rey
ilhas	pescaria		
		Angra	Angra
	Serra de feruādo poa		
cabo dangra		cauo dangra	C: dangra

PILESTRINA	CANTINO	CANERIO	WALDSEEMÜLLER 1516
Rio d9 camaroes	Rio d9 caularoes	rio de camaroel	Rio de camaroel
punta	puta delgada	plaia delgato	plaia delgato
	G.·. do gatto		
Rio dabora	Rio da borra	rio da boria	rio daboria
Serra guereiro	Serra guerreira	Serra querero	Serra guerera
	C.·. do ilheo	ilhas blancha	Alba
Rio sēnome		Rio Sem tome	Rio de .S. thom
ilha branca	put d9 garlao		
		cauo delileco	C. de lilio
	Rio do capo	rio	rio
	praia d9 medons		
Serra botta		Serra boca	Sera bota
Rio de sam bento	Rio de sam bento	rio de .S. beneito	rio .S. ben
aruoredo		arnoredo	aruorado
c. d. sam iohā	c.·. de Sam Juam	cauo de .S. johā	C. de .S. Joā
Rio bello			
Rio dāgra	g.·. dangra	Rio dangra	rio dāge
ilhas d. corisco	Rio do corisco	insulla de corisco	Isule de corisco
	Rio damozra		
cabo das esteras	c.·. das esteiras	cauo da esteras	
maceras		marceras	C. daescaras marceras
Rio do gabā	Rio do gauam	Rio de gaban	rio dagaba
	c.·. dabarca	cauo dabarca	C: da barcha

G. d. santa crara	C. ⁚ . do Stã crara		
	c. ⁚ . do nazaro	rio donazare	rio de nazarẽ
cabo de lopo goncalvez	c. ⁚ . de lope goncalues	c. de lopo goncaluez	C: de lupo
Rio de sam barias	Rio de Sam baiaas	rio do san basias	rio de .S. basias
Rio do palmar	do palmar	rio do palmas	rio de palms
Rio de pero dias			
aruor d. fernâ gomez	auor de fernã gomes		
trrã depta			
Cabo d. Caterina	C.: de caterna	C. de catelina	C. de catelina
srrâ d. santo Spto	Serra de Sti spu	Serra de S. Spirito	S. d'S. spũ
		terra con. soa	te'ra 9pid
		.C. de perodias	C. perodias
	Serra da praia	Serra de praia	
	G. ⁚ . daluaro mro		
trrã da pinia		terra derea	
	C. ⁚ . primero		
aruoredo		arnoredo	
trrã com p'da	Serra comper	terra conpr...	
		palmar	
	praia d9 baixos		
cabo p'mº		Cabo primo	.C. primo
			Ca pr
os dons môtas	puta das moutis	os don montes	os donmontes
	barrocas d9 fauais		
Rio fremoso	praia fremoso	rio fremoso	Rio fremosa

PILESTRINA	CANTINO	CANERIO	WALDSEEMULLER 1516
Rio			
praia de sam de sam domĩgo	trrã de Sam domigo	praia de s. domingo	planicies .S. doñiti
		.p. dangra	p. dangra
G. das baixas		.G. dabaixas	.G. dabaixos
angra		baixo	Baixo
		palmar	palmar
cabo d. palmar	C.⁘. de pramer	c. de palmas	.C. de palmis
Rio do manicongo	Rº manicogo	rio de manicogo	Rio de manicogo
padrom primero		padrom primero	padrom primero
cabo Rodondo	C: Rotondo	cabo redondo	Caput Rotundũ
Serra fremosa	Serra fremossa	Serra fremosa	Serra fremoso
	ptã delgada		
Rio d. mõdego		Rio de montego	rio demontego
	Rio de fernam vaz		
Rio damadanella	Rio de madanela	Rio da madallena	Rio de madallena
angra	C.⁘. domestre		
ilhas das cabras	ilhas das cabras	ilha de cabras	ilha de tabras
	pta das ilhas cabras		
		porto dilgada	porto dilgada
	porto das canboas		
cabo d. sam lorẽco		cabo de san lorenso	cabo de sanlorenso
	C.⁘. de pichell		

comẽ ço da serra	Rio de sam lazare	comento dacerra	comento dazerra
	villa grossa	Angra	Angra
	c: da Serra		
G. d. santa $\overset{a}{m}$	G de Stām	C. de santa maria	C. de .S. maria
castell pedroso		cabo stel pedroso	C. stelpedroso
p. dangra	pũta dañg̃	ponta dangra	ponta dangra
praia			
trrã pta	terra preta	terra breta	terra breta
c. de montes	anura		
montenegro		C. negro	.C. nigro
	c.: d9 lob9		
calheta primera		Calceta primera	Calcera primera
cabo das mesas	amg de Inād...	Angra	Angra
G. das aldras	monte negro		
		terra damesas	Terra damesas
	osillaros		
	terra darca		
	G.·. das aldeas	Corffo daalgas	.G. daalgas
	pũta darca	plaia darea	plaia darea
G. d9 fattos	G.:. do Salto	Golffeto	Golffeto
G. das areas	G.·. das areas	G. das areas	.G. das arcas
cabo negro			
ponto			

PILESTRINA	CANTINO	CANERIO	WALDSEEMÜLLER 1516
angra			
montanha da pedra	amontanha da pedra	Monta elha da pedra	monta alba da pedra
	C.·. negro		
praia xd.	praia das baixas	plaia verde	plaia verde
	terra darca		
	Serra de sam lazaro		
medons	os medos	Os medons	os medons
p. delgada	pũta da praia fuiba	Ponta delpada	ponta delpada
	os medo		
p. d. Rui pirez	pũta de Ruy peirez	ponta de rupirez	ponta de rupirez
		Cabo redondo	.C. ratondo
	G.·. da valea		
		Amgra	Amgra
cabo do padrõ	C:. do padro	.c. de padrom	.C. de padrom
	os montes do padrom		
praia das pedras		praia das pedras	praia das pedras
	terra de Stã barbora		
Praia das nervs		porto das nerdes	porto das nerdas
porto d. Santo ãbroxo	monte da praia	Santo ambroxio	.S. Ambrosio
	aputa danḡ		
areas gordas	terra das algoas		
praia	praia das aves		
angra daconceicam	praia das malhas	angra dacenierica	angra dacenierita
praia das allagoas	emscada branca	praia das alagoas	praia das alagoas

p. do ilheo	G. · . d9 com——|— çepçam	porto dolliceo	porto dolliceo
ponta do sabro	puto do Sabro terra da Roca praia	ponta de sabro	ponta de sabro
G. de Santome	G:. de stō thome	.G. de santome	.G. de .S. Thome
os tres irmaos	acaleta d9 tres imaos	os tres imaos	
G. d. santo antonio	G:. de Sam vitoria	Gorffo de .S. antoni	.G. de .S. autom
	pūta da ilheos	Cabo das ilhas	C. das ilhas
G. das uoltas	pūta da mi$\bar{g}$	.G. dasuolleas	.G. das uolleas
G. de santo esteuam	G:. de Sam xroball	Gorffo de san steua	G. de .S. stefano
ilhetas	os ilhaos das baixas	ilhetas	ilhetas
	terre da S. Silvestre		
	montas do bibaniota	Golfforino	Golforino
ilheos sec9	aponta do stā	insulla secas	insulas secas
Serra do perricall	Serra do pericall	Serra de perical	Serra deperital
	os montes dap--		
as lonbadas	alonba da Senā	Aslonba	as lonba
as moutas	alāba da das mons	As montas	as montas
Sorradas	montas	Serados	Serados
Reis	astrollas (?)	Os reis	os reis
G. de santa ellena	G: de Sta ellena	G. de stā ellena	G. de .S. ellena
porto fragoso		p. fragoso	p. fragoso
	——————|—	——————|—	
cabo de boa esperanca	Cabo de boa esperança	Cabo de boa speransa	.C. de bona speransa

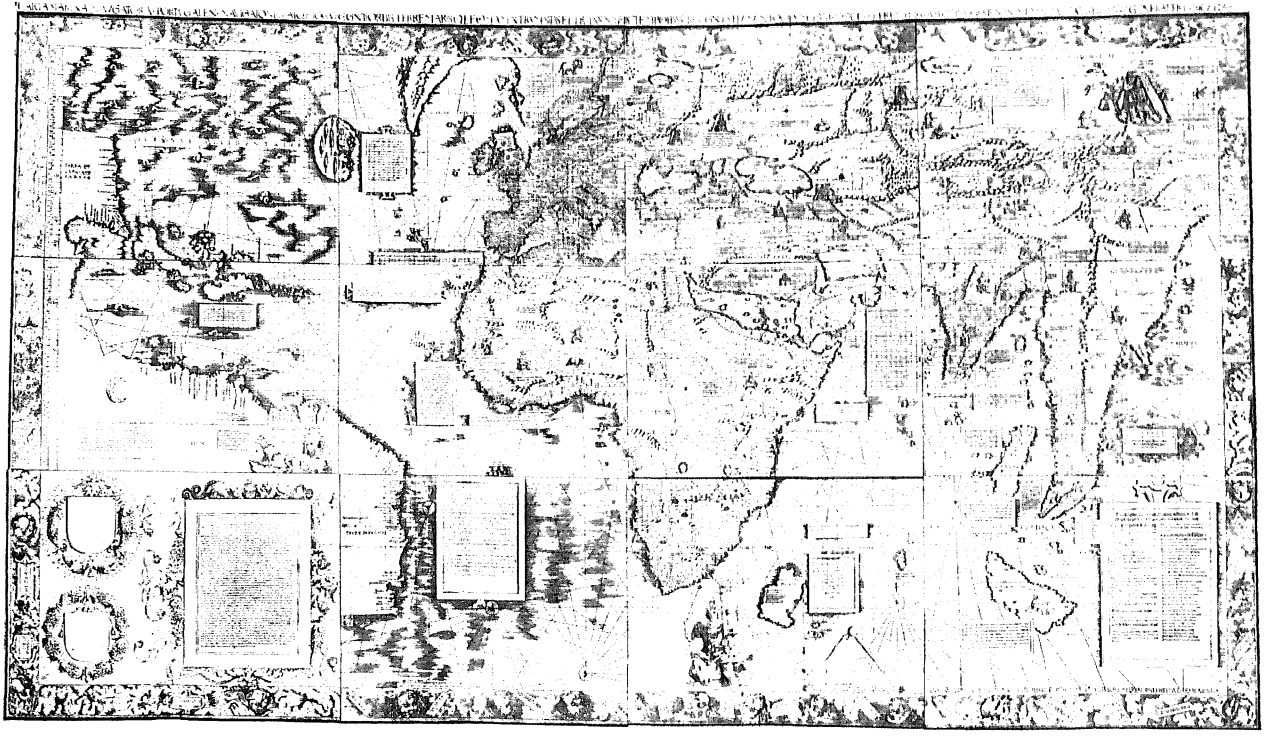
PILESTRINA	CANTINO	CANERIO	WALDSEEMÜLLER 1516
	abaia		
	As seia		
	S. biado		
agulhas	G. das agullas		
	Apraia		
cabo do infanti	C. do infante	cabo donfante	C. donfate
angra	G. do Coberti		
G. do salto	C. de resunancal	G. de salto	.G. de salto
trrâ de sam iohã		terra de S. ioham	Terra de s. iohan
c. de uaqueir9			
G. desam bras	G. de Sanbras	.G. de Sanbras	.G. de sanbra
p. da pescaria	Rio de frung	ponta de pescaria	pōta de pescaria
lago carrado	Alago carrado	lago cairado	lago cairado
	Serra da estrella		
cabo talhado	C. talhado	cabo talcado	.C. talcado
baia das alagoas	Abaia das alagoas	plaia das alagoas	Plaia das alagoas
	terra dos montes	terras das trouoadas	Terras dastrone
	Punta de Ruyez		
costa darea		costa darca	Costa darca
G. das quermadas	Pūta das qūmadas	.G. das quemadas	.G. das quemad
		angra	Angra
cabo do Reciffi	C. do arreciffe	cabo dorecifi	Cabo dorecifi
baia da Roca	baia da Roca	G. daraca	.G. daraca
ilheos dacruz	Ilheos da Cruz	ilcheos dacruz	ilchaos dacruz

ilheos chaaos	Ilheoos chaos	ilheos chaaos	ilheos chaaos
	puta do carascal	porto da charscal	porto da charscal
padrom	Padro de S. Gregorio		
praia do das fontes	Rio de lagoa		
	Praia das alagoas		
	penedo da---		
	FFurna		
Rio do infante	Rio do infante	Rode infante	Rodeinfante
		Rio	Rio
		Cabo	Cabo
		Rio sem tome	Rio de .S. Thome
	Praia	praia	praia
		ilheo de san cristofa	ilheo de .S. cristo
	C.·. primeiro	Cortada	Cortada
		Gorffo boscho	G. boscho
		Gorffo de natal	G. de natal
		porto dapescaria	porto de pescaria
		porto de stã lucia	porto de s. lucia
		Tiram das mesas	Tiram das mesas
	Rio dꝯ medos	Rio domedons	Rio domedons
	ro	Serra mas	Serramos
		ponta demedons	pontademedons
		Terra chrimiꝯ	Terra chrimiꝯ
	Rio dalagoa	Rio de lago	Rio delago

PILESTRINA	CANTINO	CANERIO	WALDSEEMÜLLER 1516
		G. de com raios	G. decommios
		Rio dagoada	Rio dagoada
		barciras	Barriras
	Cabo das correntes	cabo das corcateso	Cabo das corcateso
		Gorffo das manchas	.G. das manchas
		Gorffo de meras	Gorffo demeros
		Cabo de pichel	cabo depichel
	Cabo de Sam Sebastiam		
		ilhas de sam domingo	ilhas de S. dominico
		ilhas de sam sebastiam	ilhas de .S. Sebastiano
			gomermager fl.
	Cafalla		zefalo
	Aquí he anima douro em que ara muyta abūdiea delle mais que em outra muhua ptr ꝛ he descoberta por el Rey de portugall	Aqui he amina douro em que ara multa abondancia de le mais que em outra	Hic est magna copia auri
		Rio de sam vicenso	Rio de .S. vĩcencio
			omara
	Rio das bons sinaes	Rio de bono futaes	Rio de bons Sutaes
		padro de sam raffael	padro de .S. Raffael
		bareiras	Bareiras

Ilhas primeras	insulla primera	insula prmeras
	cabo das ilhas	Cabo das ilhas
	ilhas de Sta maricha	ilhas de .S. maricha
	ilhetas	ilhetas
	curaes	Curaes
moçambique	mon canbiqui	Moncabiqui
Rio de fernam veloso	Rio de fernam velloso	Rio de fernã vellaso
	furna	furna
	ilhas de acutado	
	ilhas das palmas	insule de palmis
Ilhas de Sam Lazaro		
	ilhas das cabecas	insule de cabecas
	Rio de sam pantaleoni	
Quillua	quiloa	quiola
	ilhas desertas	insule deserte
Zamzibar		
Baixos de Sam Raffaell	baixos de sam raffael	Baixos de .S. raffael
	Terra de baixos	Terra de baixos
mõbaça	moncacha	Monbacha
	butual	butual
Melinde	Mellinde	MELINDACIV
	Aqui he el rey de mellinde	

PILESTRINA	CANTINO	CANERIO	WALDSEEMÜLLER 1516
	pate	patta	patte
	berrama	berlama	Berlama
	mogadoxo	mogaidaxo	Mogodaxo
	ypym	opim	opim
	animala	Animalla	Animalla
	gargala	Garalla	Garralla
	lacursela	lacurcella	acurella
	Carapui	Carapui	Carapin
	Gargela	Gergella	Bargella
	Cabo	cabo dangra	Cabo dangra



Carta Marina of Waldseemüller, 1516

NAMES AND LEGENDS OF CANERIO BEYOND CAPE GUARDAFUI

lidebo
Sor
Sidio
Gabel
uida
ferram
camoram
adam
chim
lecor
paticho sam galla
gallacadel
ilha clara
bogo candim
mezerite
porto de lubacam
Carogam̄a
cauo calcatrin
porto dam̄aqte
porto dama de irmeniaco
Siffar
bagara
Subor̄n̄
promontorin
dogama
Capsina
Canaua
Carada
magnedo
bilbana
istriana
phigia
malad
odary

manes
caro
idicira
ciriffa
facinda
Carasena
Coronaieoio
pasni
Siguy
Tenagus
potira
Toace
cheisbues9
ionaca
Ansuissa
parospana
Tatūpe
coluise
inpistra
Aciadana
Aradans
Sagany
Carnana
carmania
Acusa
Cantinos
Canaro
carigasse
Collomoco
pocum
minara
beitao
Gegueto astrua
daba

parana

Canbaia

"Aqui ha laquat et panos finos de toda sortes et figos pasados et ubas et ensenso ɀ aluiz quer et ambre et aliofar que tudo bem de drentro pollo osentam de careto": "Here is to be found lac, fine stuffs of all kinds and dried figs and grapes, and incense, and perfumes and amber and seed-pearls which come from inland."

Cura

parnea

dema

Canarea

binia

meria

Dobascha

bualli

(A flag is here inserted in the vicinity of Goa, though the name Goa is omitted.)

Andegiba

(Name not legible)

nitore

Magalor

Cananor

Pandarano

Calliqut

"Aqui he caliqut he multo noble adade descoberta pol el muy escariado $\overset{R}{pnp}\overset{O}{}$ Rey dom manuel Rey de portugal aqui ay moito menxuy de sua naturea e pimenta et outras multas mercadarias que vem de multas partes .&. canella gengiber cranoem senso sandalos et toda sortes de especiaria et pedras do grande valor et perlas de grande uallor et aliofar": "Here is Calicut, the most noble city discovered by the most illustrious Prince Dom Manuel King of Portugal. Here is much benzoin of fine quality, pepper, and many other kinds of merchandise which come from many parts, also cinnamon, ginger, cloves, incense, sandalwood, and all kinds of spices, stones of great value, and pearls of great value, also seed-pearls."

panane

Cangallor

Cochim

Tanarao

Collum

Cauo de curiam

Cilcam

Caito

Caiqui

Chulim

Adaa

bradigo

Rir

Tressul

pata

Gudarin

(A flag)

Trexalpata

(Name not legible)

Guaguar

A flag with the following legend: "Catiguam aqui ha

panos muitos finos de seda et dalgodam et aroz ⁊ azucar et cera, ⁊ outras multas mercadarias: Catiguam": "Here is much fine silk and cotton stuffs, also rice, and sugar, and wax, and many other kinds of merchandise."

(A flag here inserted)

Arcagna

Carimpeguo

Facto

(A flag here inserted)

Maitabane

Taoo

danasaguin

Carta

Caronguo

(A flag here inserted)

Tacao

cara

falupalsolar

Modobar

A flag here inserted with the legend: "Aqui a sandalos ⁊ menxuim ⁊ ruibarbo ⁊ aiofar": "Here are sandalwood, benzoin, rhubarb, and seed-pearls."

COILV-REGNVM

(A flag here inserted)

Mallaqua

bargimgapara

"Aqui ha chumbo ⁊ almizquer ⁊ menzoy et sandalos": "Here are lead, perfumes, also benzoin and sandalwood."

paigueim

"Aqui ha almisquer ⁊ sandallos ⁊ menioim ⁊ estoraque ⁊ linaloe et chumbo": "Here are perfumes, also sandalwood, benzoin, storax, aloes and lead."

Fulutumuna

"aqui ha as mercadarias que atrias": "Here are the commodities as before."

Madagarit

"aqui linaloo ⁊ almizquer ⁊ meniom̄ et astoraque outras miutas mercadarias": "Here are aloes, perfumes, benzoin, storax, and much other merchandise."

REGNUM VAR

nagaragoy

"aqui a tudo oque atras he nomeado ⁊ eubis ⁊ outras podras de grando vallor.": "Here is all that I have mentioned before and rubies and other stones of great value."

Cereaci

"aquia todas as mercadarias que atras": "Here are all the commodities as before."

fulicandora

Chanococim

"Aqui ha lenaloe et brazill laquere et sandallos bemioin atoraque ⁊ ruibarbo": "Here are aloes, brazil wood, lac, sandalwood, benzoin, storax and rhubarb."

INDIA SVPERIOR

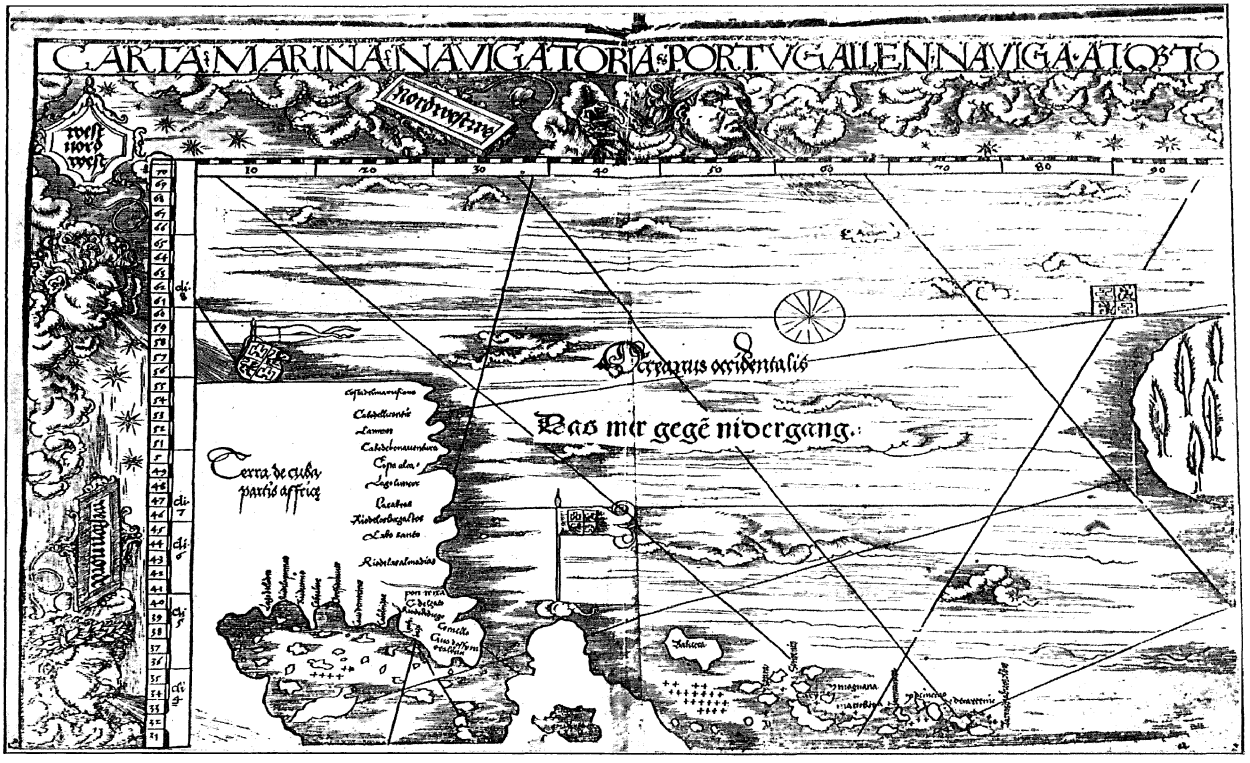
quiritiria.

"Aqui ha multa seda et cera

et amizquer ꝛ menioim et astoraque robis e outras pedras pecciosa de multas sortes": "Here is much silk, also wax, perfumes, benzoin, storax, rubies, and other precious stones."

(*The Islands of the East*)

MARE-PRASSODVM
MADAGASCAR
Cornorbimam
dinamorari
dinaaroby
diba margabim
SINVS BARBARIOVS
Callisia
Cacotoia
Garamuz
xateralequa
os aixos padoa
padiapalla
mane
mey
Capiniry
canatoini
Mallay
zibitim
Carbardom
Cassar
Sissa
Arissam
Tranom
Sapom
Sissam
Mõtizmoto
lisam
Armachora
Panamo
Traganamelleo
morachim
"Aqui nace a canella et multas sortes de speciaria et aqui pescam as perlas et elmofar sum as gentes desta insolla idolatras et tratam cnito cum caliqut": "Here cinnamon grows and many kinds of spices, and here they fish for pearls and seed-pearls, and the people of the island are idolaters and they trade with Calicut."
indana
indrona
indana
nagobnini
nagolainn
gass
ATAPROBANA
"Esta insulla ihamada ataprobana he maior insulla que se en lo mondo et mais richa de todas as consas .s. auro ꝛ prata et predras preciosas et perlas et rubis muito grandes et finos ꝛ todas sortes de speciaria et sedas et borcados et a gentes sum idolatres et multo dispostas e tratam com os de fora et ihandaqui ꝛ muitas mercadarias per afora et trasem outras que ay em esta



Section of chart by Frisius, circa 1525

insulla": "This island called Taprobana is the largest island in the world and is very rich in all things such as gold, silver, precious stones, pearls and rubies of large size and fine quality, also all kinds of spices, silks and brocades. The inhabitants are idolaters and trade with foreigners, and they carry much merchandise abroad and bring back other kinds which are found in this island."

camotora
pilloror
bamarim
mamcabo
puigim
puragna
Signa
bamsaba
insula timona
.y. sena
.y. baxos ihamada fuluadora
.y. das baixas
insulla baxos
.y. anna
.y. sania
.y. adena
.y. de spusa
.y. baixos
baixos
.y. menorte
baixos brauos
.y. caramearnetoria

CINGIRINA . Y .

"Chingirina esta ilha he multo rico et sum xrãos ꝛ daqui vam as asprocenanas amellaquart et aqui a bemioin et linaloes e alvizquer": "Chingirini is an island which is very rich and here are Christians; from this place they go to Mallaqua which is not far distant. Here is benzoin and aloes and perfume."

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